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DECEMBER, 1915

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THE CATALOGUE 1915-1916



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Correspondence addressed simply to Brown University, Providence, Rhode Island, may be expected to reach the proper department, but in order to avoid delay correspondents are requested to note the following directions:

Communications relating to matters directly in the charge of the Corporation, and all correspondence bearing upon the general interests of the University, should be addressed to the President.

Repress for the Annual Catalogue and other publications, and inquiries relating to the admission of Undergraduate students, should be addressed & Weiterstanding from

Inquiries concerning scholarships should be addressed to the Secretary of the Committee on Scholarships.

Inquiries concerning other matters pertaining to Undergraduate students should be addressed to the Dean of the University.

Inquiries in regard to the Graduate Department should be addressed to the Dean of the Graduate Department.

Inquiries concerning the Women's College should be addressed to the Dean of the Women's College, Pembroke Hall.

Inquiries or information concerning Alumni should be sent to the Keeper of Graduate Records, University Library.

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THE CATALOGUE OF BROWN UNIVERSITY

ONE HUNDRED AND FIFTY-SECOND YEAR

1915-1916



PROVIDENCE, RHODE ISLAND PUBLISHED BY THE UNIVERSITY 1915

D. B. UPDIKE, THE MERHYMOUNT PRESS, BOSTON

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CALENDAR 1915–1916

Vacations and Holidays occurring within the Academic Year 1915-16 are indicated by dark type.

1915	1916	1916
JULY	JAN.	JULY
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26 27 28 29 30 31	25 26 27 28 29 30	31

THE UNIVERSITY CALENDAR 1915-16

1010	
SEPTEMBER 1.	Wednesday. Annual Meeting of the Corporation (first Wednesday in September).
September 6-18.	Monday to Saturday inclusive. Field work in Surveying (Civil Engineering 1).
September 14-20.	Tuesday to Monday inclusive. Examinations for ad- mission to the Freshman class and to advanced standing.
September 20, 21.	Monday and Tuesday. Registration of new stu- dents and enrolment of students previously in residence.
September 22.	Wednesday, 9 a.m. ACADEMIC YEAR BEGINS (fourth Wednesday in September). Registration and en- rolment of Graduate students at the Registrar's office.
October 6.	Wednesday. Examination in Greek for the Presi- dent's Premiums, 2 Sayles Hall, 2.30 p.m.
October 13.	Wednesday. Examination in Latin for the Presi- dent's Premiums, 1 Sayles Hall, 2.30 p.m.
October 20.	Wednesday. Examination in Mathematics for the Hartshorn Premiums, 26 Wilson Hall, 2 p.m.
October 27.	Wednesday. Examination in French for the Hicks Premiums, 1 Sayles Hall, 2.30 p.m.
NOVEMBER 3.	Wednesday. Examination in German for the Caesar Misch Premiums, 5 Sayles Hall, 2.30 p.m.
November 25.	Thursday. Thanksgiving Day. No University exercises.
November 30.	<i>Tuesday.</i> Last day for receiving applications for examinations in entrance conditions.
December 1.	Wednesday. Preliminary discussion for the Class of 1880 Prizes.

December 3.	Friday. Last day for receiving essays submitted in competition for the Class of 1880 Prizes.
DECEMBER 8.	Wednesday. Public discussion for the Class of 1880 Prizes.
December 22. 1916	Wednesday, 12.20 p.m. CHRISTMAS RECESS BEGINS.
JANUARY 4.	Tuesday. Christmas Recess ends.
JANUARY 5.	Wednesday, 8 a.m. Recitations begin.
JANUARY 22.	Saturday. Last day for applications of competi- tors for the Carpenter Prizes in Elocution.
JAN. 24 to FEB. 4.	Monday to Friday inclusive. Semester examina- tions.
FEBRUARY 1-7.	Tuesday to Monday inclusive. Mid-year examina- tions for admission to the Freshman class.
FEBRUARY 5-8.	Saturday to Tuesday inclusive. MID-YEAR RECESS.
FEBRUARY 7, 8.	Monday and Tuesday. Enrolment of Undergrad- uate students.
February 9.	Wednesday, 8 a.m. SECOND SEMESTER BEGINS. En- rolment of Graduate students at the Registrar's office.
FEBRUARY 22.	<i>Tuesday</i> . Washington's Birthday. No University exercises.
FEBRUARY 28.	<i>Monday.</i> Last day for applications of competi- tors for the Bishop McVickar Prizes.
March 22.	Wednesday. Last day for receiving essays sub- mitted in competition for the Gaston Prize Medal.
Макси 30.	Thursday. Last day for receiving applications for examination for the degree of Doctor of Philosophy, or of Master of Arts in absentia.
April 3-9.	Monday to Sunday inclusive. Spring Recess.
April 10.	Monday, 8 a.m. Recitations begin.
April 13.	Thursday. Last day for receiving applications

THE UNIVERSITY CALENDAR

	for the Grand Army of the Republic Fellow- ship.
April 19.	Wednesday. Carpenter Prize Speaking Competi- tion.
April 28.	Friday. Last day for receiving theses of candi- dates for the degree of Doctor of Philosophy.
April 29.	Saturday. Last day for receiving essays submitted in competition for the Bishop McVickar Prizes.
Мау 3.	Wednesday. Examination in Greek for the Foster Premium.
	Meeting of the Board of Fellows.
MAY 9.	Tuesday. Gaston Prize Medal Competition.
MAY 16.	Tuesday. Hicks Prize Debate.
Мау 17.	 Wednesday. Last day for receiving essays sub- mitted in competition for the Society of Colonial Dames Prize. Examination in Latin for the Lucius Lyon Pre- miums.
May 27.	Saturday. Last day for examinations for ad- vanced degrees.
Мау 30.	Tuesday. Memorial Day. No University exer- cises.
JUNE 5-16.	Monday to Friday inclusive. Semester examina- tions.
June 6.	<i>Tuesday.</i> Last day for receiving essays submitted in competition for the Class of '73 Prize.
JUNE 18.	Sunday. Baccalaureate Sermon, First Baptist Meeting House, 4.30 p.m.
JUNE 19.	Monday. Class Day.
June 20.	 Tuesday. Annual Meeting of the Phi Beta Kappa Society, Administration Building, 9.30 a.m. Ivy Day, Pembroke Hall. Annual Meeting of the Associated Alumni, Lyman Gymnasium, 6.30 p.m.

10	BROWN UNIVERSITY
JUNE 21.	Wednesday. ONE HUNDRED AND FORTY-EIGHTH ANNUAL COMMENCEMENT (third Wednesday in June), First Baptist Meeting House, 10 a.m.
JUNE 22.	Thursday. Meeting of the Corporation.
JUNE 22 to SEPT. 26.	SUMMER VACATION.
September 6.	Wednesday. Annual meeting of the Corporation (first Wednesday in September).
September 19-25.	Tuesday to Monday inclusive. Examinations for ad- mission to the Freshman class and to advanced standing.
September 25, 26.	Monday and Tuesday. Registration of new stu- dents and enrolment of students previously in residence.
September 27.	Wednesday, 9 a.m. ACADEMIC YEAR BEGINS (fourth Wednesday in September).

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ANDREW JACKSON JENNINGS, A.B., LL.B.	Fall River, Mass.
OSCAR LAPHAM, A.M.	Providence

† Deceased.

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† Deceased.

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Assistant Professor of Physiology	26 Rhode Island Avenue
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JAMES ALEXANDER HALL, A.B., Sc.B. Assistant Professor of Mechanical Engineeri	
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WALTER CLARK PHILLIPS, A.M. Instructor in English	427 Maxcy Hall
LEIGHTON TEETERICK BOHL, Sc.B. Instructor in Civil Engineering	32 Henry Street, Edgewood

† On leave of absence during the academic year 1915-16.

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Instructor in Physiology and Household Economics in the Women's College					
SAMUEL TOMLINSON ARNOLD, A.B., Sc.M. 441 Angell Street					
Instructor in Chemistry					
PAUL HART FRANCIS, Sc.M.	385 Laurel Hill Avenue				
Instructor in Mechanical Drawing					
ROY FOLLETT, A.B.	42 Hazard Avenue				
Instructor in English HENRY GARFIELD CLARK, Рн.В.	11 Brunonia Hall				
Instructor in Physical Training	11 Diulionia Itali				
FRANK CARLETON BLAKE, Sc.B.	9 Searle Street				
Instructor in Mechanical Engineering	4				
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EDWARD WINSLOW HINCKS, Ph.B.	99 Brown Street				
Instructor in Physical Training	55 DIOWN DICCL				
MARION KENNETH FORWARD, Ph.B.	110 Waterman Street				
Assistant in English					
WALTER HENRY SNELL, A.M.	63 Charles Field Street				
Assistant in Botany					
ARTHUR KIERNAN, PH.B.	173 Pond Street				
Assistant in Mathematics	70 Olive Street, Pawtucket				
HERBERT ELLIOTT FOOTE, A.M. Assistant in Chemistry	10 Onve Street, Tawtacket				
CHESTER LEWIS KNOWLES, Sc.M.	Narragansett Pier				
Assistant in Chemistry	0				
RALPH LEON BLANCHARD, A.B.	51 University Hall				
Assistant in English					

OFFICERS OF ADMINISTRATION AND INSTRUCTION 19

SHARON OSBORNE BROWN, A.B. Assistant in English	5 University Hall
FRED WILLIAM MILLER, PH.B. Assistant in Philosophy	24 Taber Avenue
RAYMOND ABNER PRESTON, A.B. Assistant in English	320 Maxcy Hall
SAMUEL EARL LONGWELL, A.B. Assistant in Biology	72 East Manning Street
JOHN BURNHAM FERGUSON, A.B., M.D. Demonstrator in Anatomy	369 Broad Street
JAMES FRANKLIN COLLINS, PH.B. Demonstrator in Botany	468 Hope Street
ROWLAND HAZARD McLAUGHLIN, Ph.B. Executive Secretary	134 George Street
ELLIOT TOWLE BUGBEE, PH.B. Assistant Registrar	24 Elton Street
EMMA BRADFORD STANTON, A.M. Registrar of the Women's College	Bristol
HENRY DEWEES CADY Instructor in Shop Practice	306 Washington Street
M. ELIZABETH BATES Instructor in Hygiene and Physical Education in t	118 Cushing Street he Women's College
EDWIN AYLSWORTH BURLINGAME, Sc.B. Superintendent of Grounds and Buildings	62 Lloyd Avenue
GENE WILDER WARE, A.B. Organist and Director of Chapel Music	140 Lenox Avenue
PETER PINEO CHASE, M.D. Physician to the University	192 Waterman Street
THOMAS PARKER AYER, PH.B. Reference Librarian	49 George St.
PHEBE PARKER, A.B. Cataloguer	5 Congdon Street
EDITH RICHMOND BLANCHARD, A.M. Assistant Reference Librarian	247 Wayland Ave.
MARY WIDMAN BRONSON, PH.B. Assistant Cataloguer	11 Benefit Street
KARL HENRY KOOPMAN, A.B. Assistant Cataloguer	76 Taber Avenue
REBECCA PHILLIPS STEERE Cataloguer in the John Carter Brown Library	84 Waterman Street

LOUISE PROSSER BATES, A.M. Keeper of Graduate Records CHARLES HENRY HUGGINS Assistant in the Gymnasium Oak Lawn

100 Lancaster Street

STANDING COMMITTEES OF THE FACULTY

ON REGISTRATION AND ATTENDANCE

Dean RANDALL, Professors DELABARRE, HILL, FOWLER, HUNTINGTON, RICH-ARDSON, and HUNKINS, Dean KING, Mr. GUILD.

ON THE CURRICULUM

Professors Mead, Gardner, Everett, Kenerson, Von Klenze, and Richardson.

ON STUDENT ORGANIZATIONS

Professors Delabarre, Langdon, Hill, Potter, Marvel, and Benedict.

ON STUDENT ADVISERS

Professors GREENE, CROSBY, BROWN, and P. H. MITCHELL.

ON EXAMINATIONS Professors Hill and Hall, Mr. Guild.

THE ENGINEERING COUNCIL Professors Hill, Randall, Watson, Kenerson, Brooks, Archibald, Cross, and Hall, Messrs. Bohl, Francis, Blake.

OFFICE HOURS

- THE PRESIDENT. 11 Administration Building: 12 m. to 1 p.m. 9 Administration Building: For University Students, 12 m. to 1 p.m., except Saturdays.
- THE DEAN OF THE UNIVERSITY. 7 Administration Building: 1.30 to 2.30 p.m., except Saturdays.
- THE REGISTRAR, AND SECRETARY OF THE FACULTY. Consultation Hours, 1 Administration Building: 11.30 a.m. to 12.30 p.m., 3.15 to 4 p.m.; Saturdays 11.30 a.m. to 1 p.m. 4 Administration Building: 12.30 to 1 p.m., except Saturdays.
- THE ASSISTANT REGISTRAR. 4 Administration Building: 8.30 a.m. to 12.30 p.m., 2 to 4 p.m.; Saturdays 8.30 a.m. to 1 p.m.
- THE DEAN OF THE GRADUATE DEPARTMENT. 5 Wilson Hall: 12.20 to 1.20 p.m., and 3.20 to 4.20 p.m.

OFFICERS OF ADMINISTRATION AND INSTRUCTION 21

- THE LIBRARIAN OF THE UNIVERSITY. The John Hay Library: 9 to 10 a.m., 3 to 4 p.m.; Saturdays 9 to 10 a.m.
- THE LIBRARIAN OF THE JOHN CARTER BROWN LIBRARY. The John Carter Brown Library: 9 a.m. to 5 p.m.
- THE DIRECTOR OF UNIVERSITY EXTENSION AND SECRETARY OF THE TEACHERS' BUREAU. The John Hay Library: 4.20 p.m. Mondays; 5.20 p.m. Wednesdays; 12.20 p.m. Saturdays.
- THE SUPERINTENDENT OF GROUNDS AND BUILDINGS. 1 University Hall: 9 to 10 a.m. daily; 2 to 2.30 p.m., except Saturdays.
- THE DEAN OF THE WOMEN'S COLLEGE. Pembroke Hall: 10.15 to 11.15 a.m. Mondays and Thursdays; 11.15 a.m. to 12.15 p.m. Tuesdays and Fridays.
- THE REGISTRAR OF THE WOMEN'S COLLEGE. Pembroke Hall: 9.15 a.m. to 1.15 p.m., 2.15 to 4 p.m.; Saturdays 9.15 a.m. to 1 p.m.
- THE UNIVERSITY PHYSICIAN. P. P. CHASE, M.D. 192 Waterman Street: 2 to 4 p.m., 7 to 8 p.m. Telephone Angell 2487-J.
- THE ABSENCE COMMITTEE. H. B. HUNTINGTON, Secretary. 5 Administration Building: 1.30 to 2.15 p.m., except Wednesdays and Saturdays.
- THE SUPERVISOR OF ATHLETIC ORGANIZATIONS. F. W. MARvel. The Gymnasium: 9 to 10 a.m., 2 to 3 p.m.
- THE SUPERVISOR OF NON-ATHLETIC ORGANIZATIONS. J. C. DUNNING. The John Hay Library: 2 to 3 p.m. Tuesdays and Thursdays.
- THE PUBLICITY COMMITTEE. W. T. HASTINGS, Chairman. 36 University Hall: 10.20 to 11.20 a.m. daily.
- THE KEEPER OF GRADUATE RECORDS. Mrs. LOUISE PROSSER BATES. The John Hay Library.
- THE EXECUTIVE SECRETARY. 11 Administration Building: 10 a.m. to 12 m.

HISTORY OF BROWN UNIVERSITY

ROWN UNIVERSITY, first called Rhode Island College, was founded in 1764. The project originated among the leaders In the Philadelphia Baptist Association, who chose the colony of Rhode Island as the most suitable place, and in 1763 sent James Manning, a recent graduate of New Jersey College, to confer with the Baptists in Newport. Conditions in the colony were ripe for the establishment of an institution of learning on broad lines. The spirit of religious liberty still prevailed in the commonwealth founded by Roger Williams; commerce on land and sea was a growing source of wealth; and a considerable degree of culture existed, especially in Newport, then a thriving seaport and the home of many men of wide intellectual interests. Indeed, some of its leading citizens, including Ezra Stiles, later president of Yale College, had been considering plans for a college a year or two before Manning's visit, and the proposal of the Philadelphia Baptists won quick and hearty support. A charter, drawn up by Mr. Stiles and William Ellery (a signer of the Declaration of Independence), and amended by the Baptists, was granted by the legislature in 1764. It provided that twentytwo of the thirty-six trustees should be Baptists, five Quakers, four Congregationalists, and five Episcopalians; that eight of the twelve fellows should be Baptists, and the rest of any denominations; that the president should be a Baptist, but that the other members of the Faculty might be of any Protestant faith. Especially noteworthy are the following provisions: "Into this Liberal & Catholic Institution shall never be admitted any Religious Tests but on the Contrary all the Members hereof shall for ever enjoy full free Absolute and uninterrupted Liberty of Conscience"; and "the Sectarian differences of opinions, shall not make any Part of the Public and Classical Instruction."

The first meeting of the Corporation was held at Newport, in September, 1764, when Governor Stephen Hopkins, a Quaker, was chosen chancellor. A year later James Manning, who had become pastor of the Baptist church in Warren and had opened a Latin school, was appointed "President of the College, Professor of Languages and other Branches of Learning with full Power to act in those Capacities at Warren or elsewhere." The first student had been matriculated the day before; for nearly a year he was the only student. David

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Howell, a graduate of New Jersey College, was engaged as tutor in 1766, and in 1769 was made professor of natural philosophy. At the first Commencement, in 1769, a class of seven graduated. In 1770 the College moved to Providence, a growing town of four thousand inhabitants, which had subscribed about \$15,000 for an endowment; some \$6000 had also been collected in Great Britain and among the Baptists of the Southern States. A site of eight acres on College Hill was bought for \$730; and University Hall, modelled on Nassau Hall at Princeton, and a house for the president were built in 1770-71. In 1775 the Baptist church, of which Manning had become pastor, erected a new meeting-house, "for the publick Worship of Almighty GOD; and also for holding Commencement in." From December, 1776, to May, 1782, the college building was used as barracks and hospital by American and French troops, and college exercises were suspended. Twenty-three of the sixty-seven graduates rendered active service on the patriot side during the Revolution. After the war the College began slowly to grow again. The students, who had numbered about forty in 1776, increased to seventy-two by 1789, and in 1790 a class of twenty-two graduated. Most of the instruction was given by the president and two or three tutors; but professorships without stipend were established in natural philosophy, natural history, mathematics and astronomy, and law. The library had two thousand volumes.

President Manning died in 1791. The success of the College during its first quarter-century was due largely to his ability as organizer, teacher, and orator. His discipline was paternal but strict. Students were visited daily in their rooms by the tutors, and most of them boarded in the college commons; all were required to attend chapel twice a day. The course of study, like the regimen, was based upon that at the College of New Jersey. The requirements for admission were a knowledge of Cicero, Virgil, the Greek Testament, and arithmetic, and ability to write "true Latin." In college the chief studies were Latin, Greek, mathematics, logic, philosophy, history, and oratory; most of these were not carried far, but the instruction in oratory was prolonged and thorough. Of the 165 graduates under Manning, 43 became ministers (26 Congregationalists, 12 Baptists), 29 lawyers, 19 physicians, and 48 entered public life.

Jonathan Maxcy, of the class of 1787, was the second president, and served until 1802, when he resigned to become president of Union College. He was a brilliant teacher and orator, but did not excel as an administrator. There was little growth in the endowment under him, and no essential change in the course of study. The students increased to somewhat over one hundred. Of the 227 graduates, 66 became lawyers, 56 clergymen (34 Congregationalists, 11 Baptists), 36 teachers or professors, 17 judges, and 13 Congressmen. The most distinguished name is that of Henry Wheaton, of the class of 1802, minister to Prussia and authority on international law.

Asa Messer, of the class of 1790, who had been a member of the Faculty for eleven years, succeeded to the presidency. The name of the institution was changed to Brown University in 1804, in recognition of Nicholas Brown's gift of \$5000 to endow a chair of oratory and belles-lettres. A Medical School was established in 1811: local physicians gave short courses of lectures, which the candidates for a medical degree were required to attend for two years, besides studying three years with a reputable practitioner. The school lasted until 1828, and graduated eighty-seven men, several of whom attained eminence in their profession. By 1822 the students in the academic course had increased to one hundred and fifty-two; an additional dormitory was needed, and Hope College, named for Mr. Brown's sister, was therefore built by him in 1823. In 1825 the graduating class numbered forty-eight. Tuition, which had been \$12 under Manning and \$16 under Maxcy, was raised to \$20 in 1822; but the productive funds were only \$15.578 in 1824. The Faculty in 1825 consisted of the president, nine professors (four of whom were merely lecturers in the Medical School), and two tutors. The college library contained about five thousand volumes in 1826, when a catalogue was published; and the libraries of the Philermenian Society and the United Brothers, two student debating societies, comprised nearly three thousand more. The institution was still emphatically a poor man's college. The long vacation was placed in the winter, that students might teach school, and in the catalogue of 1825-26 is the statement, "Tuition, Library, Room Rent, and Board, less than \$100 per annum." The graduates in the regular course under President Messer numbered six hundred and ninety-three, nearly twice as many as under Manning and Maxcy. The most notable names among many distinguished in professional and public life are Horace Mann, who remodelled public-school education in America, Adoniram Judson, missionary to Burma, Samuel G. Howe, the teacher of Laura Bridgman, and William L. Marcy, Secretary of State.

President Messer's later years were disturbed by serious disorders

among the students and by opposition to his theological views, and he resigned in 1826. His successor was Francis Wayland, a graduate of Union College, where he taught for several years, and a prominent Baptist clergyman. His powerful personality soon raised the University to a higher level. He tightened the reins of government, and quickened the intellectual life. The Medical School was discontinued, in order that all the resources might be concentrated upon the academic course. Entrance requirements were somewhat raised. The curriculum was much enriched, especially in the classics, mathematics, and natural sciences, and political economy was added. In several departments lectures supplemented the text-book. Prizes for excellence in examinations and for essays were established. A fund of \$25,000 for the library was secured. The general endowment in 1841 was only \$32,300; but tuition, which was now \$36, brought in a considerable income. Manning Hall was built by Mr. Brown in 1835 as a chapel and library. Rhode Island Hall was erected in 1840 for the use of the departments of natural science, chiefly with funds subscribed by citizens of the state; and in the same year Mr. Brown built a new house for the president. At his death, in 1841, Mr. Brown left bequests which swelled his total gifts to the University to nearly \$160,000. A chapter of the Phi Beta Kappa Society was established in 1830, and the first Greek-letter fraternity for undergraduates in 1836. An Alumni Association was organized in 1842. The Brunonian, an undergraduate magazine, was published during 1829-31.

President Wayland's study of English universities, in 1840, had made him dissatisfied with American collegiate methods; the steady decline in numbers for several years (from 196 in 1836 to 152 in 1849) confirmed his belief that something was radically wrong; and in 1850 he launched his so-called New System, which had been in part anticipated at Harvard University and the University of Virginia. The plan comprised three main features: 1. An elective system, by which "every student might study what he chose, all that he chose, and nothing but what he chose"; 2. The development of courses in applied science, as an aid to agriculture and manufactures; 3. A new system of degrees, the degree of Master of Arts to be granted after four years of study, that of Bachelor of Arts after three years, and a new degree, Bachelor of Philosophy, to be given at the completion of a three-year course in scientific and English studies, with very low requirements for admission. A fund of \$125,000 was raised to put the New System into effect. The results were disap-

pointing. Only a narrow range of electives was possible, for the total number of courses was still small; the courses in applied science were limited to chemistry and civil engineering, and even for these there was not much demand; and the new system of degrees did not bring great increase in the number of students, while the quality was poorer. Yet the New System, in its best features, showed remarkable prevision of the direction that university education was soon to take.

President Wayland resigned in 1855, because of failing health. His successor was Barnas Sears, of the class of 1825, a very scholarly man, who had been president of Newton Theological Institution and secretary of the Massachusetts Board of Education. He restored the degrees of Master of Arts and Bachelor of Arts to their former footing, but retained the course for the degree of Bachelor of Philosophy and the courses in applied science. In spite of the Civil War the endowment increased from \$203,000 to \$327,000, and thirty-six scholarships of \$1000 each were founded; in 1863 the Chemical Laboratory was built. Tuition was raised to \$50 in 1864. Class Day was instituted in 1856; football, baseball, and boating developed; and at the outbreak of the Civil War a military company was formed. Of two hundred and seventy-eight men graduating during the war, one hundred and thirty-two enlisted in the army. Notable names among the graduates during this administration are those of two Secretaries of State, Richard Olney and John Hay. President Sears resigned in 1867, to become agent of the Peabody Fund for education in the South.

Alexis Caswell, of the class of 1822, who had resigned his professorship in 1864, was recalled as president in 1868, Professor George Ide Chace having served as president *ad interim* since the retirement of President Sears. During President Caswell's short term of office the productive funds were increased to 602,000, and the chairs of physics and chemistry were endowed. In spite of an advance in tuition to 75, the number of students somewhat increased, and the athletic and social side of undergraduate life received more and more emphasis. The Alumni Association was resuscitated in 1868, and local associations were formed in New York, Philadelphia, and Boston during the next two years. In 1870 the time of Commencement, which had always been in September except for two years under President Wayland, was changed to June.

President Caswell retired in 1872, and was succeeded by Ezekiel G. Robinson, of the class of 1838, president of Rochester Theologi-

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cal Seminary. During his administration the University made great progress. Rhode Island Hall was enlarged in 1874, to accommodate the growing departments of natural science. The library, which had long outgrown its quarters in Manning Hall, was housed in a beautiful new building erected in 1878 with a bequest of John Carter Brown, Slater Hall, a dormitory, was built in 1879 by Horatio N. Slater, Sayles Hall, given by William F. Sayles in memory of his son, and containing class-rooms and a large auditorium, was completed in 1881. In 1883 University Hall was renovated. A physics laboratory, named Wilson Hall in honor of George F. Wilson, who left a bequest for it, was begun in 1889. Funds for the Lyman Gymnasium were given by Daniel W. Lyman in 1887, and for the Ladd Observatory by Herbert W. Ladd in 1889. The chair of natural history and botany was endowed by a bequest of Stephen T. Olney in 1878, and in 1884 the Metcalf Botanical Garden was given to the University by the widow of Whiting Metcalf. The productive funds were increased to \$1,000,000. The requirements for admission were made more severe; and the curriculum was much enlarged, especially in modern languages and natural science. In 1876 the course for the degree of Bachelor of Philosophy was lengthened to four years. The most radical change was a liberal though guarded extension of the elective system in 1885. Graduate study was thereby encouraged; the degree of Master of Arts was granted upon examination in 1888, that of Doctor of Philosophy in the following year. The number of undergraduates, however, remained nearly the same, seldom rising above two hundred and fifty.

Elisha Benjamin Andrews, of the class of 1870, who had been president of Denison University and professor in Newton Theological Institution, Brown University, and Cornell University, succeeded President Robinson in 1889. During his administration the University grew at a remarkable rate. The students increased to about nine hundred, of whom more than one hundred were candidates for advanced degrees. Several new departments were added, and the Faculty more than trebled. The courses in engineering received greater emphasis, and the degrees of Civil Engineer, Mechanical Engineer, and Bachelor of Science were established. In 1891 the Corporation voted to admit women to the college examinations; in 1892 women were recognized as candidates for degrees, and women graduate students were admitted to the University classes. In 1897 the Corporation created "a department of the University to be known as the Women's College in Brown University"; and in the same year the Rhode Island Society for the Collegiate Education of Women built Pembroke Hall and gave it to the University as a recitation hall for the Women's College, where women undergraduates might receive instruction in separate classes taught by members of the University Faculty, although taking the University examinations and receiving their degrees from the University. Wilson Hall, Ladd Observatory, and Lyman Gymnasium were completed in 1891, and Hope College was renovated. Maxcy Hall, a dormitory with a few class-rooms, was built in 1895. A new athletic field, named in honor of President Andrews, was laid out in 1898-99. In 1898 the productive funds were \$1,125,685; the estimated value of the grounds and buildings was \$1,177,966. In this year President Andrews resigned, to become superintendent of the Chicago public schools.

William Herbert Perry Faunce, of the class of 1880, was elected president in 1899, Professor Benjamin F. Clarke having served as president ad interim for the preceding academic year. The material resources of the University have been greatly enlarged during the present administration. The general endowment has increased to \$4,446.243. Salaries have been raised, and a pension system similar to that of the Carnegie Foundation went into effect in 1913. Many new buildings have been erected: a house for the president, in 1901; an Administration Building, the gift of Augustus Van Wickle, in 1902; an Engineering Building, in 1903; Caswell Hall, a dormitory, in 1904; Rockefeller Hall, named for the donor, John D. Rockefeller, and occupied by the Christian Association and the Brown Union, in 1904; the John Carter Brown Library, given by the trustees of the estate of John Nicholas Brown, in 1904; the Carrie Tower, built by Paul Bajnotti in memory of his wife, Carrie Mathilde Brown Bajnotti, in 1904; a marble swimming pool, given by Colgate Hoyt in 1904; a field house on Andrews Field, erected by Edgar L. Marston, in 1907; and the John Hay Library, the gift of Andrew Carnegie and others, in 1910. The Arnold Biological Laboratory, named for the donor, Dr. Oliver H. Arnold, was completed in 1915. In 1903 a great organ, presented by Lucian Sharpe, was set up in Savles Hall, Bronze statues of Caesar Augustus and Marcus Aurelius, the gifts of Moses B. I. Goddard, were placed on the campus in 1906 and 1908. An iron fence around the grounds was completed in 1905; and gates have been erected at various times-the Van Wickle Gates, in 1901; the John Nicholas Brown Gate, given by Mrs. Brown, in 1904; the God-

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dard Gates, in memory of Chancellor William Goddard, the gift of his daughter, Mrs. C. Oliver Iselin, in 1910; and the gates at minor entrances, presented by the classes of 1872, 1884, and 1887. The Slater Memorial Homestead was given to the Women's College by Mrs. Horatio N. Slater, for a dormitory, in 1900. Sayles Gymnasium, for the women students, was built by Frank A. Sayles in 1906, in memory of his sister. Miller Hall, a women's dormitory named for Dr. and Mrs. Horace G. Miller, was erected in 1910.

The Faculty has increased to more than a hundred members, and the number of students to over a thousand. Entrance requirements for the engineering degrees and the degree of Bachelor of Philosophy have been raised, and those for the degree of Bachelor of Arts have been broadened. The curriculum has been widened and deepened. while the elective system has been guarded against abuse by regulations securing a certain breadth of study. Graduate study has been fostered by the development of laboratories and seminaries. The work of the Faculty has been better organized by the appointment of deans and by reform of the committee system. Undergraduate life is more carefully supervised, partly through agencies that give training in self-government. The University has been brought into closer relations with the community, the alumni, and other educational institutions, by the establishment of the Brown University Teachers' Association, the appointment of visiting committees, the formation of new alumni associations, and the giving of more power to the alumni in the choice of trustees.

The general effect of the policy of the last three administrations has been to make the institution a "university college," as it has been called, combining many of the advantages of the small college and the large university.

At the close of the one hundred and forty-seventh Commencement of the University, in 1915, there were enrolled the names of 7985 graduates — 7212 men and 773 women. Of this number, 7048 had received the academic first degree; 185, exclusive of the foregoing, had received advanced degrees; 69, not previously reckoned, had received the degree of Doctor of Medicine; 683 others had received honorary degrees. Of the entire number, 4689, or 58.72 per cent, were living.

ADMISSION TO THE UNIVERSITY

METHODS OF ADMISSION TO THE FRESHMAN CLASS

ENTRANCE EXAMINATIONS CONDUCTED BY THE UNIVER-SITY. Examinations for admission to the Freshman class are given by the University in September[‡] at the times and places indicated below. The University no longer offers entrance examinations in June; candidates desiring to be examined in June must take the examinations conducted under the supervision of the College Entrance Examination Board, for which see page 31. A candidate may, at his option, take all his examinations in June or in September, or he may take part in June and part in September. Before taking any examination conducted by the University, a candidate must make written application to the Registrar, on a blank provided for the purpose, and secure a card admitting him to the examination. This may be done by correspondence, provided that the application is received not less than one week before the date of the first examination. A letter of recommendation from the principal of the preparatory school must be filed with the application.

Any of these examinations may be taken one year before the candidate expects to enter college.

If a candidate offers subjects in excess of those required for admission, he may be examined in them at the times regularly scheduled for entrance examinations, and receive credit for them as college studies. He must, however, state on his application that such examinations are for advanced standing.

The order of the examinations in 1916 will be as follows:

TUESDAY, FEBRUARY 1, and SEPTEMBER 19 Elementary Algebra 1, Sayles Hall, 8 a.m. to 10 a.m. Elementary Algebra 2, Sayles Hall, 8 a.m. to 10 a.m. Plane Geometry, Sayles Hall, 10 a.m. to 12 m. Two-year Latin, Sayles Hall, 1 p.m. to 3 p.m. Elementary Latin, Sayles Hall, 1 p.m. to 3 p.m. Advanced Latin, Sayles Hall, 3.30 p.m. to 5 p.m.

WEDNESDAY, FEBRUARY 2, and SEPTEMBER 20 English 1, Sayles Hall, 8 a.m. to 10 a.m. English 2, Sayles Hall, 10 a.m. to 12 m. Chemistry, Sayles Hall, 1 p.m. to 3 p.m. Ancient History, Sayles Hall, 3.30 p.m. to 5.30 p.m.

THURSDAY, FEBRUARY 3, and SEPTEMBER 21 Elementary German (First year), Sayles Hall, 8 a.m. to 10 a.m. Elementary German (Second year), Sayles Hall, 10 a.m. to 12 m. ‡ And at mid-year.

ENTRANCE REQUIREMENTS

Intermediate German, Sayles Hall, 1 p.m. to 3 p.m. American History, Sayles Hall, 3.15 p.m. to 5.15 p.m. Physiography, Sayles Hall, 5.30 p.m. to 7.30 p.m.

FRIDAY, FEBRUARY 4, and SEPTEMBER 22 Elementary French (First year), Sayles Hall, 8 a.m. to 10 a.m. Elementary French (Second year), Sayles Hall, 10 a.m. to 12 m. Intermediate French, Sayles Hall, 1 p.m. to 3 p.m. Astronomy, Sayles Hall, 3.15 p.m. to 5.15 p.m. Elementary Italian (First year), Sayles Hall, 3.15 p.m. to 5.15 p.m. English History, Sayles Hall, 5.30 p.m. to 7.30 p.m.

SATURDAY, FEBRUARY 5, and SEPTEMBER 23 Plane Trigonometry, Sayles Hall, 8 a.m. to 10 a.m. Solid Geometry, Sayles Hall, 10 a.m. to 12 m. Advanced Algebra, Sayles Hall, 1 p.m. to 3 p.m. Elementary Italian (Second year), Sayles Hall, 3.15 p.m. to 5.15 p.m. Physics, Sayles Hall, 3.15 p.m. to 5.15 p.m. Botany, Sayles Hall, 5.30 p.m. to 7.30 p.m. Intermediate Italian, Sayles Hall, 5.30 p.m. to 7.30 p.m.

MONDAY, FEBRUARY 7, and SEPTEMBER 25 Elementary Greek, Sayles Hall, 8 a.m. to 10 a.m. Elementary Spanish (First year), Sayles Hall, 8 a.m. to 10 a.m. Advanced Greek, Sayles Hall, 10 a.m. to 11.30 a.m. Elementary Spanish (Second year), Sayles Hall, 10 a.m. to 12 m. Medieval and Modern History, Sayles Hall, 1 p.m. to 3 p.m. Intermediate Spanish, Sayles Hall, 3.30 p.m. to 5.30 p.m.

ENTRANCE EXAMINATIONS CONDUCTED BY THE COLLEGE ENTRANCE EXAMINATION BOARD. Examinations conducted under the supervision of the College Entrance Examination Board are accepted in place of the corresponding examinations conducted by Brown University, provided they receive a grade of at least 60%. In 1916 these examinations will be held June 19-24.

All applications for these examinations must be addressed to the Secretary of the College Entrance Examination Board, Hamilton Hall, Post Office Station H, New York, and must be made upon a blank form to be obtained from the Secretary of the Board. Applications for examination at points in the United States east of the Mississippi River, or on the Mississippi River, must be received by the Secretary on or before Monday, June 5, 1916; applications for examination elsewhere in the United States or in Canada must be received on or before Monday, May 29, 1916; and applications for examinations at points outside the United States and Canada must be received on or before Monday, May 15, 1916. Applications received later than the dates named will be accepted

when it is possible to arrange for the examinations of the candidates concerned, but only upon the payment of \$5 in addition to the regular fee.

The examination fee is \$5 for all candidates examined at points in the United States and Canada, and \$15 for all candidates examined at points outside of the United States and Canada. The fee, which must be sent with the application, should be remitted by postal order, express order, or draft on New York, to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board in June, 1916, will be published about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

ADMISSION BY CERTIFICATE. In place of examinations, certificates are accepted from any school which has the privilege of issuing certificates to Brown University.

Principals of schools in New England who desire the certificate privilege for Brown University, or for any other college which is a member of the New England College Entrance Certificate Board, should address the Secretary of the Board, Professor Frank W. Nicolson, Wesleyan University, Middletown, Conn., who will furnish the necessary application blanks. These blanks must be returned to him before April 1 of the year for which the certificate privilege is desired.

Principals of schools situated outside of New England who desire the certificate privilege must make application to the Registrar of the University before May 1, if possible, and must furnish full and detailed information regarding the courses of study, teachers, pupils, library, laboratories, apparatus, etc. Blank forms for this purpose will be supplied on request. If this statement is satisfactory, the school will be placed on the accredited list for a period of from one to three years. At the expiration of this period, or whenever the principal of the school is changed or a change in policy is instituted, a new application for the certificate privilege must be made.

Certificates from the New York Board of Regents are accepted for the specified subjects so far as they coincide with the entrance requirements of Brown University.

Certificates are accepted for admission to the Freshman class only, not for admission to advanced standing.

Blank forms for the certification of candidates may be obtained from the Registrar by the principals of schools having the privilege of certification. These forms should be filled out and returned to him by July 1. When a student has attended more than one school, a letter of recommendation from the principal of the school last attended must accompany the certificate.

ENTRANCE REQUIREMENTS

ADMISSION AT MID-YEAR

On account of the increasing number of applications from the mid-winter graduates of high schools and academies, arrangements have recently been made whereby applicants for admission to the courses leading to the degrees of Bachelor of Arts and Bachelor of Philosophy will be admitted at the beginning of the second semester (for 1916 the date will be February 8). For detailed statements regarding requirements for admission, entrance examinations, registration and enrolment, and payment of bills, see pages 30-50, 52, 53, 177.

The new plan does not involve any extensive change in the present curriculum, in which most of the instruction is given in continuous year courses, but the necessary readjustments have been made, chiefly in the departments of English and Mathematics, so that students can arrange a satisfactory schedule of subjects.

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ENTRANCE UNITS. A unit in any subject represents a year's study, constituting approximately a quarter of a full year's work in a secondary school.

This statement is designed to afford a standard of measurement for the work done in secondary schools. It takes the four-year high school course as a basis, and assumes that the length of the school year is from thirty-six to forty weeks, that a period is from forty to sixty minutes in length, and that the study is pursued for four or five periods a week; but under ordinary circumstances, a satisfactory year's work in any subject cannot be accomplished in less than one hundred and twenty sixty-minute periods or their equivalent. Schools organized on any other than a four-year basis can, nevertheless, estimate their work in terms of this unit.

SUBJECTS REGULARLY ACCEPTED FOR ADMISSION

	Units		Units
English1(Grammar and Compositio	on) 11/2	Intermediate French	1
English 2 (Literature)	11/2	Elementary German (First year)	1
Ancient History	1	Elementary German (Second year)	1
Medieval and Modern European		Intermediate German	1
History	1	Elementary Spanish (First Year)	1
English History	1	Elementary Spanish (Second Year)) 1
American History and Civil Gov-		Intermediate Spanish	1
ernment	1	Elementary Italian (First Year)	1
Two-year Latin	2	Elementary Italian (Second Year)	1
Elementary Latin	3	Intermediate Italian	1
Advanced Latin	1	Elementary Algebra 1	1
Elementary Greek	2	Elementary Algebra 2	1/2
Advanced Greek	1	Advanced Algebra	1/2
Elementary French (First year)	1	Plane Geometry	1
Elementary French (Second year)	1	Solid Geometry	1/2

	Units		Units
Plane Trigonometry	1/2	Botany	1
Physics	1	Physiography	1
Chemistry	1	Astronomy (for Sc.B. only)	1

UNLISTED SUBJECTS. With the approval of the Committee on Registration and Attendance, subjects not on the regular list, but included in the curriculum of an approved school, may be presented, provided: (1) That the candidate is a graduate of the school on a four-year course. (2) That the grade for certification is the same as for the listed subjects. (3) That the aggregate value of such subjects does not exceed two units.

ENTRANCE REQUIREMENTS FOR THE VARIOUS DEGREES

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS. Candidates must present fourteen and one-half units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one in Ancient History; the in languages other than English (including the elementary and advanced requirement in either Latin or Greek); and three in elective subjects.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF PHILO-SOPHY. Candidates must present fourteen and one-half units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one in History; three in languages other than English (including one in either French or German); and five in elective subjects.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCI-ENCE.§ Candidates must present fourteen units as follows: three in English; one and one-half in Algebra; one in Plane Geometry; one-half in Solid Geometry; one in History; four (one of which must be in Chemistry or Physics) from the following subjects: French, German, Spanish, Chemistry, Physics; and three in elective subjects.

[‡] A candidate for the degree of Bachelor of Arts may present Medieval and Modern History, English History, or American History, in place of Ancient History; but in this case he must take the course in Classical Civilization in the Freshman or Sophomore year. § In Brown University the Degree of Bachelor of Science is given only for engineering courses. The work is mainly technical and offers no freedom of election.

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ENTRANCE REQUIREMENTS IN THE SEVERAL SUBJECTS[‡]

ENGLISH. Three units. Preparation in English has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

GRAMMAR AND COMPOSITION. The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles governing punctuation, diction, paragraphs, and the whole composition should be carefully studied; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise narration, description, and easy exposition and argument based upon simple outlines. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

LITERATURE. In the pursuit of the second object the student is required to read certain books chosen from two lists, headed respectively *Reading* and *Study*. In connection with both lists the student should be trained in reading aloud, and should be encouraged to commit to memory some of the more notable passages both in verse and in prose.

For Students entering 1916 to 1919

Reading

The aim of this part of the requirement is to foster in the student the habit of intelligent reading and to develop a taste for good literature. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and the charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

GROUP I. CLASSICS IN TRANSLATION. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with

[‡] The following statements are condensations of those in the Report of the College Entrance Examination Board. Teachers are advised to consult this report. the omission, if desired, of Books 1, 11, 111, 1V, V, XV, XVI, XVII; the *lliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the *Aeneid*. The Odyssey, *lliad*, and *Aeneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

- GROUP II. DRAMA. Shakspere: A Midsummer Night's Dream; The Merchant of Venice; As You Like It; Twelfth Night; The Tempest; Romeo and Juliet; King John; Richard the Second; Richard the Third; Henry the Fifth; Coriolanus; Julius Caesar; # Macbeth; # Hamlet. #
- GROUP III. PROSE FICTION. Malory: Morte d'Arthur (about 100 pages); Bunyan: Pilgrim's Progress, Part 1; Swift: Gulliver's Travels (voyages to Lilliput and Brobdingnag); Defoe: Robinson Crusoe, Part 1; Goldsmith: The Viear of Wakefield; Frances Burney: Evelina; Scott's Novels, any one; Jane Austen's Novels, any one; Maria Edgeworth: Castle Rackrent or The Absentee; Dickens's Novels, any one; Thackeray's Novels, any one; George Eliot's Novels, any one; Mrs. Gaskell: Cranford; Kingsley: Westward Ho! or Hereward, the Wake; Reade: The Cloister and the Hearth; Blackmore: Lorna Doone; Hughes: Tom Brown's School Days; Stevenson: Treasure Island, or Kidnapped, or The Master of Ballantrae; Cooper's Novels, any one; Poe: Selected Tales; Hawthorne: The House of the Seven Gables, or Twice Told Tales, or Mosses from an Old Manse; a collection of short stories by various standard writers.
- GROUP IV. ESSAYS, BIOGRAPHY, ETC. Addison and Steele : The Sir Roger de Coverley Papers or selections from The Tatler and The Spectator (about 200 pages); Boswell: Selections from the Life of Johnson (about 200 pages); Franklin: Autobiography; Irving: Selections from the Sketch Book (about 200 pages), or Life of Goldsmith; Southey: Life of Nelson; Lamb: Selections from the Essays of Elia (about 100 pages); Lockhart: Selections from the Life of Scott (about 200 pages); Thackeray; Lectures on Swift, Addison, and Steele in the English Humourists: Macaulay: Any one of the following essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederic the Great, Madame d'Arblay; Trevelyan : Selections from the Life of Macaulay (about 200 pages); Ruskin: Sesame and Lilies or selections (about 150 pages); Dana: Two Years before the Mast; Lincoln: Selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman: The Oregon Trail; Thoreau: Walden ; Lowell : Selected Essays (about 150 pages); Holmes : The Autocrat of the Breakfast Table; Stevenson: An Inland Voyage and Travels with a Donkey; Huxley: Autobiography and selections from Lay Sermons, includ-

‡ If not chosen under Study.

ing the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; a collection of Essays by Bacon, Lamb, De Quincey, Hazlitt, Emerson, and later writers; a collection of Letters by various standard writers.

GROUP V. POETRY, Palgrave ; Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Grav, Cowper, and Burns; Palgrave: Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen under Study); Goldsmith : The Traveller and The Deserted Village; Pope: The Rape of the Lock; a collection of English and Scottish ballads, as, for example, some Robin Hood ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens, and a selection from later ballads; Coleridge: The Ancient Mariner, Christabel, and Kubla Khan; Byron: Childe Harold, Canto III or IV, and The Prisoner of Chillon: Scott: The Lady of the Lake or Marmion ; Macaulay : The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivry; Tennyson : The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur ; Browning : Cavalier Tunes, The Lost Leader. How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, An Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa-Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"-, Instans Tyrannus; Arnold: Sohrab and Rustum and The Forsaken Merman : selections from American Poetry, with especial attention to Poe, Lowell, Longfellow, and Whittier,

Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading. Greater stress is laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. For this close reading the books are arranged in four groups, from each of which one selection is to be made.

- GROUP I. DRAMA. Shakspere: Julius Caesar; Macbeth; Hamlet.
- GROUP II. POETRY. Milton: L'Allegro, Il Penseroso, and either Comus or Lycidas; Tennyson: The Coming of Arthur, The Holy Grail, and The Passing of Arthur; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's Golden Treasury (First Series).
- GROUP III. ORATORY. Burke: Speech on Conciliation with America; Macaulay: Speech on Copyright, and Lincoln: Speech at Cooper Union; Washington: Farewell Address, and Webster: First Bunker Hill Oration.
- GROUP IV. ESSAYS. Carlyle: Essay on Burns, with a selection from Burns's Poems; Macaulay: Life of Johnson; Emerson: Essay on Manners.

EXAMINATION. The examination will be divided into two parts, one of which (English 1) will be on grammar and composition, and the other (English 2) on literature.

In grammar and composition, the candidate may be asked to construe sentences, to parse individual words, and to correct mistakes in usage. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books listed above under *Reading*, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose several subjects, perhaps eight or ten, will be indicated, from which the candidate may make his own selections.

The examination in literature will include: (1) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under *Reading* above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions. (2) More particular questions upon the content, form, and structure of the books prescribed for *Study*, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

These requirements are the same as those of the College Entrance Examination Board in English.

MATHEMATICS. ELEMENTARY ALGEBRA 1. One unit. The requirement includes the following subjects: the four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, and ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations; radicals, including the extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative. 2. One-half unit. The requirement includes quadratic equations, both numerical and literal; simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations; the binomial theorem for positive integral exponents; the formulae for the *n*th term, and the sum of the terms, of arithmetical and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of

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these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

This requirement is the same as that of the College Entrance Examination Board in Mathematics a (i and ii).

PLANE GEOMETRY. One unit. The requirement in Plane Geometry covers the usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle; the solution of numerous original exercises, including loci problems; applications to the mensuration of lines and plane surfaces.

Teachers of Geometry should lay stress on accuracy of statement and elegance of form as well as on clear and strict reasoning. Mere memorizing should be avoided. Special care should be taken that in the proof of a proposition no lines be drawn unless their construction is proved to be possible.

This requirement is the same as that of the College Entrance Examination Board in Mathematics c.

SOLID GEOMETRY. One-half unit. The requirement in Solid Geometry covers the usual theorems and constructions of good text-books, including the relations of planes and lines in space; the properties and measurements of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; applications to the mensuration of surfaces and solids.

This requirement is the same as that of the College Entrance Examination Board in Mathematics d.

PLANE TRIGONOMETRY. One-half unit. The requirement in Plane Trigonometry includes definitions and relations of the six trigonometric functions as ratios; circular measurement of angles; proofs of principal formulae, in particular for the sine, cosine, and tangent of the sum and difference of two angles, of the double angle and half angle, the product expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonnometric expressions by means of these formulae; the solution of trigonometric equations of a simple character; the theory and use of logarithms (without the introduction of work involving infinite series); the solution of right and oblique triangles; practical applications.

This requirement is the same as that of the College Entrance Examination Board in Mathematics f.

ADVANCED ALGEBRA. One-half unit. The requirement in Advanced Algebra includes permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and

the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots.

This requirement is the same as that of the College Entrance Examination Board in Mathematics b.

LATIN.[‡] ELEMENTARY LATIN. Three units. The reading without the prescription of particular authors and works shall not be less in amount than Caesar, Gallie War, Books 1-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias. The reading shall be selected from the following authors and works: Caesar, Gallie War and Civil War, and Nepos, Lives; Cicero, orations, letters, and De Senectute, and Sallust, Catiline and Jugurthine War.

Candidates will be examined in translation at sight of passages from Caesar and Cicero. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above. They will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

This requirement is the same as that of the College Entrance Examination Board in Latin NR 1, NR 2, NR 4.

ADVANCED LATIN. One unit. The reading shall not be less in amount than Vergil, Aeneid, Books 1-VI. This reading shall be selected from Vergil, Bucolics, Georgics, and Aeneid, and Ovid, Metamorphoses, Fasti, and Tristia.

Candidates will be examined in translation at sight of passages from Vergil and Ovid. They will be examined also upon the following prescribed reading: Vergil, *Aeneid*, Books 1, 11, and either 1V or VI, at the option of the candidate. The examination will include questions on subject-matter and meter.

This requirement is the same as that of the College Entrance Examination Board in Latin NR 5.

Two-YEAR LATIN. Two units. The reading should not be less in amount than Caesar, Gallic War, Books 1-1V, and should be selected by the schools from Caesar, Gallic War and Civil War, and Nepos, Lives. Candidates will be ex-

[‡] For students presenting by examination the full four-unit requirement in Latin, the examinations of the College Entrance Examination Board in Latin 1, 2, 4, 5 will be accepted.

amined in translation at sight of passages from the above authors, also in grammar and composition.

The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

The words, constructions, and range of ideas called for in the examination in composition will be such as are common in the reading of the years covered by the examination.

This requirement is practically the same as that of the College Entrance Examination Board in Latin NR 3.

GREEK. ELEMENTARY GREEK. Two units. The requirement in Elementary Greek includes: (1) Xenophon's Anabasis, Books 1-1V, with attention not only to language, but to subject-matter as well; (2) grammar, including a familiar knowledge of inflection, word-formation, and ordinary syntax. This will be tested by: (a) questions on a passage from the Anabasis; (b) translation into Greek, with accents, of simple English sentences.

This requirement is the same as that of the College Entrance Examination Board in Greek a (i and ii), b, and g.

ADVANCED GREEK. One unit. The requirement in advanced Greek includes: (1) Three books of Homer's *Iliad* or Odyssey, with questions on meter, Homeric dialect, etc., or (upon request four weeks in advance of the examination) an equivalent amount of a prose author; (2) translation at sight of simple Attic prose or Homer; (3) translation into Greek, with accents, of a continuous passage of English narrative, based upon material similar to the Anabasis.

This requirement is the same as that of the College Entrance Examination Board in Greek f and ch.

FRENCH. ELEMENTARY FRENCH. FIRST YEAR. One unit. At the end of the first year the pupil should be able to pronounce French accurately, to translate at sight very easy French prose, to put into French very simple English sentences taken from the language of every-day life or based upon the portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

During the first year the work should comprise : Careful drill in pronunciation; the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax, including the simpler uses of the conditional and subjunctive; abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; the reading of from 100 to

175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English), and in reproducing from memory sentences previously read; writing French from dictation.

As no examination in first-year French is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see page 31.

ELEMENTARY FRENCH. SECOND YEAR. One unit. At the end of the second year the pupil should be able to read and translate at sight easy French prose, to put into French simple English sentences taken from the language of everyday life or based upon the portion of the French text read, to write from dictation simple French sentences, and to answer questions on the rudiments of the grammar as defined above with the additions made below.

During the second year the work should comprise: The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; constant practice, as in the previous year, in translating into French easy variations upon the texts read; frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; writing French from dictation; continued drill upon the rudiments of grammar, with constant application in the construction of sentences; mastery of the forms and use of pronouns, pronominal adjectives, and of all but the rare irregular verb forms.

Suitable texts for the second year are: About's Le roi des montagnes, Bruno's Le tour de la France, Daudet's easier short tales, La Bédollière's La Mère Michel et son chat, Erckmann-Chatrian's stories, Foa's Contes biographiques and Le petit Robinson de Paris, Foncin's Le pays de France, Labiche and Martin's La poudre aux yeux and Le voyage de M. Perrichon, Legouvé and Labiche's La cigale chez les fourmis, Malot's Sans famille, Mairet's La tâche du petit Pierre, Mérimée's Colomba, extracts from Michelet, Sarcey's Le siège de Paris, Verne's stories.

The combined requirement in first and second year Elementary French is the same as that of the College Entrance Examination Board in French a.

INTERMEDIATE FRENCH. One unit. At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

The work should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts are: About's stories, Augier and Sandeau's Le gendre de

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M. Poirier, Béranger's poems, Corneille's Le Cid and Horace, Coppée's poems, Daudet's La Belle-Nivernaise, La Brète's Mon oncle et mon curé, Madame de Sévigné's letters, Hugo's Hernani and La chute, Labiche's plays, Loti's Pêcheur d'Islande, Mignet's historical writings, Molière's L'avare and Le bourgeois gentilhomme, Racine's Athalie, Andromaque, and Esther, George Sand's plays and stories, Sandeau's Mademoiselle de la Seiglière, Scribe's plays, Thierry's Récits des temps mérovingiens, Thiers's L'expédition de Bonaparte en Equpte, de Vigny's La canne de jonc, Voltaire's historical writings.

This requirement is the same as that of the College Entrance Examination Board in French b.

GERMAN.[‡] ELEMENTARY GERMAN. FIRST YEAR. One unit. At the end of the first year the pupil should be able to read at sight, and to translate, a passage of very easy dialogue or narrative prose, help being given upon unusual words and constructions, to put into German simple English sentences taken from the language of every-day life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

During the first year the work should comprise: Careful drill upon pronunciation; the memorizing and frequent repetition of easy colloquial sentences; drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order; abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; the reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

As no examination in first year German is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see page 30.

ELEMENTARY GERMAN. SECOND YEAR. One unit. At the end of the second year the pupil should be able to read at sight, and to translate, a passage of easy dialogue or narrative prose, help being given on unusual words and constructions, to put into German short English sentences taken from the language of every-day life or based upon the text given for translation, to write from dictation simple German sentences, and to answer questions upon the rudiments of grammar, as defined in the requirement for the first year, with the additions made below.

‡ An oral test forms a part of all entrance examinations in German.

During the second year the work should comprise : The reading of from 150 to 200 pages of literature in the form of easy stories and plays; accompanying practice in the translation into German of easy variations upon the matter read and also in the offhand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages; writing German from dictation; continued drill upon the rudiments of the grammar and mastery of the adjective declensions, the passive, and word-order, directed to the ends of enabling the pupil to use his knowledge with facility in the formation of sentences and to state his knowledge correctly in the technical language of grammar.

Stories suitable for the elementary course can be selected from the following list: Andersen's Märchen and Bilderbuch ohne Bilder; Arnold's Fritz auf Ferien; Baumbach's Die Nonna and Der Schwiegersohn; Gerstäcker's Germelshausen; Heyse's L'Arrabbiata, Das Mädchen von Treppi, and Anfang und Ende; Hillern's Höher als die Kirche; Jensen's Die braune Erica; Leander's Träumereien and Kleine Geschichten; Seidel's Märchen; Stökl's Unter dem Christbaum; Storm's Immensee and Geschichten aus der Tonne; Zschokke's Der zerbrochene Krug.

Good plays adapted to the elementary course are much harder to find than good stories. Five-act plays are too long. They require more time than it is advisable to devote to any one text. Among shorter plays the best available are perhaps Benedix's Der Prozess, Der Weiberfeind, and Günstige Vorzeichen; Elz's Er ist nicht eifersüchtig; Wichert's An der Majorsecke; Wilhelmi's Einer muss heiraten. It is recommended, however, that not more than one of these plays be read. The narrative style should predominate. A good selection of reading matter for the second year would be Andersen's Märchen, or Bilderbuch, or Leander's Träumereien, to the extent of about forty pages. After that, such a story as Das kalte Herze or Der zerbrochene Krug; then Höher als die Kirche or Immensee; next a good story by Heyse, Baumbach, or Seidel; lastly Der Prozess.

The combined requirement in first and second year elementary German is the same as that of the College Entrance Examination Board in German *a*.

INTERMEDIATE GERMAN. One unit. At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English, paraphrased from a given text in German; to answerany grammatical questions relating to usual forms and essential principles of the language, including syntax and word-formation, and to translate and explain a passage of classical literature taken from some text previously studied.

The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately difficult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; writing connected German passages from dictation; also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word-order and word-formation.

Suitable reading matter for the third year can be selected from such works as the following: Ebner-Eschenbach's Die Freiherren von Gemperlein; Freytag's Die Journalisten and Bilder aus der deutschen Vergangenheit, — for example, Karl der Grosse, Aus den Kreuzzügen, Doktor Luther, Aus dem Staat Friedrichs des Grossen; Fouqué's Undine; Gerstäcker's Irrfahrten; Goethe's Hermann und Dorothea and Iphigenie; Heine's poems and Reisebilder; Hoffmann's Historische Erzählungen; Lessing's Minna von Barnhelm; Meyer's Gustav Adolf's Page; Moser's Der Bibliothekar; Riehl's Novellen, — for example, Burg Neideck, Der Fluch der Schönheit, Der stumme Ratsherr, Das Spielmannskind; Rosegger's Waldheimat; Schiller's Der Neffe als Onkel, Der Geisterseher, Wilhelm Tell, Die Jungfrau von Orleans, Das Lied von der Glocke, Balladen; Scheffel's Der Trompeter von Säkkingen; Wildenbruch's Das edle Blut, a good anthology of German verse (such as Hatfield's or von Klenze's).

This requirement is the same as that of the College Entrance Examination Board in German b.

SPANISH. ELEMENTARY SPANISH. FIRST YEAR. One unit. At the end of the elementary course the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of every-day life or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as defined below.

During the first year the work should comprise: Careful drill in pronunciation; the rudiments of grammar, including the conjugation of the more regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the use of natural forms of expression; the reading and accurate rendering into good English of from 100 to 150 duodecimo pages of graduated texts, with translation into Spanish of easy variations of the sentences read; writing Spanish from dictation.

ELEMENTARY SPANISH. SECOND YEAR. One unit. At the end of the second year the pupil should be able to read and translate at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of everyday life, or based upon a portion of the text read, to write from dictation simple Spanish sentences, and to answer questions on the rudiments of the grammar as defined above with the additions made below.

During the second year the work should comprise: The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; constant practice, as in the previous year, in trans-

lating into Spanish easy variations upon the texts read; frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; writing Spanish from dictation; continued drill upon the rudiments of grammar, with constant application in the construction of sentences; mastery of the forms and use of pronouns, pronominal adjectives, and of all but the rare irregular verb forms.

Suitable texts for the second year are: Valera's El Pájaro verde; Alarcón's Novelas Cortas; Valdés's José and La Hermana San Sulpicio; selections from the works of Mesonero Romanos; Galdós's Marianela; Quintana's La Vida de Nuñez de Balboa; Padre Isla's version of Gil Blas; Carrión and Aza's Zaraguëta.

INTERMEDIATE SPANISH. One unit. At the end of the intermediate course the pupil should be able to read at sight ordinary Spanish prose or simple poetry, to translate into Spanish a connected passage of English based upon the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

The work should comprise the reading of from 400 to 600 pages of Spanish of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving Spanish paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts for the third year are Becquer's Tales, Legends, and Poetry; Valera's Pepita Jiménez; Ibanez's La Barraca; Galdós's Doña Perfecta; Echegaray's El Gran Galeoto; Ayala's Consuelo; Gil y Zárate's Guzmán el Bueno; Pereda's Pedro Sánchez; Hills and Morley's Modern Spanish Lyrics; Ford's Selections from Don Quijote.

The combined requirement in first and second year Elementary Spanish is the same as that of the College Entrance Examination Board in Spanish. As no examination in intermediate Spanish is given by the Board, this examination must be taken in September at Brown University; see page 31.

ITALIAN. ELEMENTARY ITALIAN, FIRST YEAR. One unit. At the end of the first year the pupil should be able to pronounce Italian accurately, to translate at sight very easy Italian prose, to put into Italian very simple English sentences taken from the language of every-day life or based upon a portion of the Italian text read, and to answer questions on the rudiments of grammar as defined below.

During the first year the work should comprise: Careful drill in pronunciation, the rudiments of grammar, including the conjugation of the regular verbs and the more common irregular verbs (including those that suffer orthographical and radical changes); the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax, including the simpler uses of the subjunctive; abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; the reading and accurate translation into good English of from 100 to 150 duodecimo pages of graduated texts, with translation into Italian of easy variations of the sentences read; writing Italian from dictation.

ELEMENTARY ITALIAN. SECOND YEAR. One unit. At the end of the second year the pupil should be able to read and translate at sight easy Italian prose, to put into Italian simple English sentences taken from the language of every-day life, or based upon a portion of the Italian text read, to write from dictation simple Italian sentences, and to answer questions on the grammar.

During the second year the work should comprise: The reading of from 250 to 400 pages of easy prose or poetry; constant practice in translating into Italian easy variations upon the text read; frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; writing Italian from dictation; continued drill upon the grammar, with constant application in the construction of sentences.

Suitable texts for the second year are: Manzoni's I Promessi Sposi, Levi; Selections from Carducci, Marinoni.

INTERMEDIATE ITALIAN. One unit. At the end of the intermediate course the pupil should be able to read at sight ordinary Italian prose or poetry, to translate into Italian a connected passage of English based upon the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

The work should comprise the reading of from 400 to 600 pages of Italian, including a considerable amount of Dante's *Divina Commedia*; constant practice in giving Italian paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

As no examinations in Italian are given by the College Entrance Examination Board, the examinations in this subject must be taken in September at Brown University; see page 30.

HISTORY. ANCIENT HISTORY. One unit. Special attention to Greek and Roman history, but including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages, down to the death of Charlemagne (814).

MEDIEVAL AND MODERN EUROPEAN HISTORY. One unit. From the death of Charlemagne to the present time.

ENGLISH HISTORY. One unit.

AMERICAN HISTORY AND CIVIL GOVERNMENT. One unit.

The examinations in history will be so framed as to require comparison and judgment on the pupil's part rather than mere memory. The examinations

will presuppose the use of good text-books, at least 600 duodecimo pages of collateral reading, and practice in written work. Historical novels, plays, or poems will not be accepted in fulfilment of the requirement of collateral reading. The methods of instruction which the examinations in History and Civil Government presuppose are substantially identical with those set forth in *A History Syllabus for Secondary Schools* (D. C. Heath & Co.); and the references for collateral reading given in that manual may be taken as indications of the kind of collateral reading that should be done.

These requirements are the same as those of the College Entrance Examination Board in History a, b, c, d.

PHYSICS. One unit. Preparation in Physics should include: (1) The study of one standard text-book, for the purpose of obtaining a connected and comprehensive view of the subject. The student should be given opportunity and encouragement to consult other scientific literature. (2) Instruction by lecturetable demonstrations, to be used mainly for illustration of the facts and phenomena of physics in their qualitative aspects and in their practical applications, (3) Individual laboratory work, consisting of experiments requiring at least the time of thirty double periods. The experiments performed by each student should number at least thirty. The work should be so distributed as to give a wide range of observation and practice. The aim of laboratory work should be to supplement the pupil's fund of concrete knowledge and to cultivate his power of accurate observation and clearness of thought and expression. The exercises should be chosen with a view to furnishing forceful illustrations of fundamental principles and their practical applications. They should be such as yield results capable of ready interpretation, obviously in conformity with theory, and free from the disguise of unintelligible units. Slovenly work should not be tolerated, and the effort for precision should not lead to the use of apparatus or processes so complicated as to obscure the principle involved.

Throughout the whole course special attention should be paid to the common illustrations of physical laws and to their industrial applications.

In the solution of numerical problems, the student should be encouraged to make use of the simple principles of algebra and geometry to reduce the difficulties of solution, but unnecessary mathematical difficulties should be avoided, and care should be exercised to prevent the student from losing sight of the concrete facts in the manipulation of symbols.

Every candidate must present as a part of the examination, a note-book, certified by the teacher, containing in the candidate's own language a description of his laboratory exercises, with a careful record of the steps, observations, and results of each exercise. The note-book must afford clear evidence of the pupil's ability to make accurate observations and to draw direct conclusions.

This requirement is the same as that of the College Entrance Examination Board in Physics.

ENTRANCE REQUIREMENTS

CHEMISTRY. One unit. The following outline includes only the indispensable topics which must be studied in the class-room and laboratory. The material is, for the most part, common to all elementary text-books and laboratory manuals. The order of presentation will naturally be determined by the teacher.

OUTLINE. The chief physical and chemical characteristics, the preparation and the recognition of the following elements and their chief compounds: oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur, phosphorus, silicon, potassium, sodium, calcium, magnesium, zinc, copper, mercury, silver, aluminum, lead, tin, iron, manganese, chromium.

More detailed study should be confined to the italicized elements and to a restricted list of compounds, such as: water, hydrochloric acid, carbonmonoxide, carbon-dioxide, nitric acid, ammonia, sulphur dioxide, sulphuric acid, hydrogen-sulphide, sodium-hydroxide.

Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flames, acids, bases, salts, oxidation and reduction, crystallization, manufacturing processes, familiar substances (illuminating gas, explosives, baking powder, mortar, glass, steel, common alloys, porcelain, soap).

Combining proportions by weight and volume; calculations founded on these and on Boyle's and Charles's laws; symbols and nomenclature (with careful avoidance of special stress, since these are non-essential); atomic theory, atomic weights and valency in a very elementary way; nascent state; natural grouping of the elements; solution (solvents and solubility of gases, liquids, and solids; saturation); ionization; mass action and equilibrium; strength (=activity) of acids and bases; conservation and dissipation of energy; chemical energy (very elementary); electrolysis. Chemical terms should be defined and explained, and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but should be taught only so far as is necessary for the correlation and explanation of the experimental facts.

It is recommended that the candidate's preparation in chemistry should include: (1) Individual laboratory work, comprising at least forty exercises; (2) instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations; (3) the study of at least one standard text-book, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

Every candidate must present as a part of the examination, a note-book, certified by the teacher, containing in the candidate's own language a description of his laboratory exercises, with a careful record of the steps, observations, and results of each exercise. The note-book must afford clear evidence of the pupil's ability to make accurate observations and to draw direct conclusions.

This requirement is the same as that of the College Entrance Examination -Board in Chemistry. BOTANY. One unit. The course should include a careful study of the general principles of Anatomy and Morphology, Physiology, and Ecology; also the natural history of the plant groups, and classification.

Individual laboratory work by the student is essential and should receive at least double the amount of time given to recitation. Records of the laboratory work, properly certified by the teacher, in which stress is laid upon accurate drawing and precise description, must be presented at the time of examination.

Where special circumstances, such as exceptional difficulty of obtaining material, prevent the completion of the entire amount while allowing its equivalent in thoroughness, it is recommended that some of the minor topics be omitted rather than that the attempt be made to cover all more superficially. To provide for this contingency, the examination papers will always include a number of alternative questions.

This requirement is the same as that of the College Entrance Examination Board in Botany.

PHYSIOGRAPHY. One unit. The candidate's preparation should include: (1) The study of one of the leading secondary text-books in physical geography, that a knowledge may be gained of the essential principles and of wellselected facts illustrating those principles; (2) individual laboratory work, comprising at least forty exercises. From one-third to one-half of the candidate's class-room work should be devoted to laboratory exercises. In the autumn and spring field trips should take the place of laboratory exercises. Properly attested reports of field and laboratory work must be presented at the time of examination.

This requirement is the same as that of the College Entrance Examination Board in Geography.

ASTRONOMY. One unit. The requirement in Astronomy demands class instruction in the elementary principles of the science, including observations of the heavens with reference to the positions and movements of the heavenly bodies. The following are the chief topics to be studied: The Celestial Sphere; designation of the directions of a heavenly body. The Earth; its axial rotation; time, latitude, longitude; its orbital revolution; precession; aberration, the seasons, equation of time, the calendar. The Moon; its axial rotation, orbital motion, librations, phases, surface features, physical condition; lunar and solar eclipses. The Sun; its rotation, physical characteristics, light, and heat. The Planets; apparent and real motions, individual characteristics. The Law of Gravitation; its control of the solar system; the tides. Comets and Meteors; their nature and motions. The Stars; designation, classification by constellations, motions, distance, brightness, variables. Stellar Systems; clusters, nebulae; the stellar universe, cosmogony.

As no examination in Astronomy is given by the College Entrance Examination Board, the examination in this subject must be taken in September at Brown University; see page 31.

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ADMISSION TO ADVANCED STANDING

A candidate for admission to advanced standing, unless coming from an institution of collegiate rank, will be examined in the studies required for entrance to Brown University (unless admitted by certificate) and in those already pursued by the class which he desires to enter.

A candidate for admission to advanced standing, who comes from an approved institution of collegiate rank, may receive credit, without examination, for work done at such institution. He will be required, however, to present, or to have had accepted elsewhere, the same entrance subjects as are demanded of students entering Brown University without advanced credit; and to cover, or to have covered, all the prescribed subjects in the course leading to the desired degree at Brown University. The Committee on Registration and Attendance will determine the amount of credit that he may receive, on receipt of the following papers, all of which should be sent to the Registrar of Brown University: (1) A formal statement, made out and signed by the proper official of the institution previously attended, showing all preparatory subjects accepted by it for entrance, and all the courses attended at college, with their catalogue numbers, and the standing attained therein by the student; (2) a similar official statement as to whether the student has completed the amount of work regularly required up to the time of his withdrawal from the previous institution, or has done work in excess thereof, or of less amount, or has incurred conditions or probation : (3) a marked catalogue of the institution previously attended, describing the subjects taken ; (4) a letter of honorable dismissal from the institution last attended.

Every candidate for a bachelor's degree, admitted to advanced standing, must remain in residence at the University at least one year before receiving his degree, and must take in regular course the full amount of work ordinarily required during the academic year.

ADMISSION OF SPECIAL STUDENTS

Mature persons of good character who desire to pursue some special subjects and who have had the requisite preliminary training are allowed to enter the various courses of study in the University without becoming candidates for a degree.

Applicants for registration as special students must present to the Registrar, on or before August 1 if possible, a certified and detailed statement of the nature and extent of their preparatory work, including testimonials of character and ability. In case a student has attended more than one institution, he must present credentials from each of them. Applicants must satisfy the Committee on Registration and Attendance, by passing the entrance examinations or presenting certificates, that they are qualified to pursue the courses desired.

Special students are subject to the same regulations regarding attendance and examinations as candidates for degrees; they must take fifteen hours of class-room work a week unless satisfactory reasons for a smaller assignment are presented.

REGISTRATION AND ENROLMENT OF UNDERGRADUATES

REGISTRATION. In September all new students, whether candidates for a degree or special students, must report at the Administration Building between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on the Monday or Tuesday preceding the opening of the first semester (for 1916, September 25 or 26), and fill out registration cards for the whole of the ensuing year. Failure to comply with this rule will be treated as late registration and a fee of three dollars will be charged. All new students must present at or before the time of registration all credentials necessary for admission as candidates for a degree or as special students.

In May of each year all undergraduates in residence, whether candidates for a degree or special students, must obtain at the Registrar's office registration cards which must be filled out with a statement of the courses elected for the whole of the ensuing year and returned not later than June 1. Failure to comply with this rule will be treated as late registration and a fee of three dollars will be charged. Before filing their registration cards at the office, members of the Sophomore class who are candidates for the degree of Bachelor of Philosophy must comply with the requirements for concentration. See pages 57, 58.

When semester courses are grouped in one paragraph (e.g. Biology 1, 2), they constitute a year course and neither semester may be elected independently unless specific statement to the contrary is made. In starred courses a final mark will be given at the end of the course, the mark given at the end of the first semester being regarded as temporary.

Changes in registration will be allowed only on presentation of sufficient reasons to the Committee on Registration and Attendance. Requests for permission to make changes in September should be sent to the Registrar before September 7, if possible. Requests for permission to make changes for the second semester must be presented to the Registrar before the beginning of the examinations of the first semester (January 22, 1916), unless these requests are the result of failures, in which case they must be presented in writing to the Registrar two days before the opening of the second semester (February 7, 1916).

The Committee on Registration and Attendance will be in session at the Administration Building between 9 a.m. and 1 p.m. and between 2.30 p.m. and 5 p.m. on the two days preceding the opening of the first semester, and on the day preceding the opening of the second semester.

REGISTRATION OF UNDERGRADUATE STUDENTS

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ENROLMENT. All students must report at the Registrar's office between 9 a.m. and 1 p.m. or between 2.30 p.m. and 5 p.m. on one of the two days preceding the opening of each semester and have their names checked as enrolled. Failure to report will be treated as late enrolment and a fee of three dollars will be charged. Semester bills must be paid before enrolment.

REQUIREMENTS FOR DEGREES

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

I. PRESCRIBED SUBJECTS

Ancient Languages (either Latin or Greek, or both). Six hours. At least three hours must be taken in the Freshman year, and the six hours must be completed by the end of the Sophomore year.

French or German. Six or more hours. Including the amount presented for admission, every student must complete before graduation at least four years' work in French or four years' work in German. A minimum of six hours must be taken in college, of which at least three hours must be taken in the Freshman year. Students who present the full entrance requirement in both Greek and Latin and who elect six hours of Greek and Latin in college will not be required to take more than six hours of modern language in college.

Mathematics. Three hours. Freshman year.

English (Rhetoric and Composition). Three hours. First semester, Freshman year. Three hours. Second semester, Sophomore year.

English Literature. Three hours. Second semester, Freshman year. First semester, Sophomore year.

European History. Three hours. Sophomore or Junior year.

Physical or Natural Science. Some three-hour course continuous through the year. Freshman, Sophomore, or Junior year.

Economics and either Social or Political Science. Three hours. Sophomore, Junior, or Senior year.

Philosophy. Some three-hour course continuous through the year. Sophomore, Junior, or Senior year.

II. REQUIREMENTS ARRANGED BY YEARS

FRESHMAN YEAR

- I. REQUIRED STUDIES. Latin or Greek, three hours; French or German, three hours; Mathematics, three hours; English, three hours.
- II. ELECTIVE STUDIES. One three-hour course continuous through the year must be chosen from the following list: Latin, Greek, French, German, Chemistry, Physics, Botany, Biology, Geology, Astronomy, Mechanical Drawing.

REQUIREMENTS FOR DEGREES

SOPHOMORE YEAR

That portion of the required work in ancient languages, modern languages, and English, not completed in the Freshman year, and other required and elective courses sufficient to make a total of fifteen hours a week.

JUNIOR YEAR

The required History and Physical or Natural Science, if not previously taken, and other required and elective courses sufficient to make a total of fifteen hours a week.

SENIOR YEAR

All required courses not previously taken, and elective courses sufficient to make a total of fifteen hours a week.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF PHILOSOPHY

I. PRESCRIBED SUBJECTS

A continuous course of three hours through the year in each of the following subjects:

Mathematics. This subject may be omitted by students who intend to take Argumentation in the Sophomore year. Freshman year.

English (Rhetoric and Composition). First semester, Freshman year. Second semester, Sophomore year.

English Literature. Second semester, Freshman year. First semester, Sophomore year.

French or German. Including the amount presented for admission, every student must complete before graduation at least four years' work in French or four years' work in German. At least three hours must be taken in the Freshman year.

Biology. Freshman or Sophomore year.

Physics, Chemistry, Geology, or Astronomy. This requirement does not apply to students who presented Physics and Chemistry for admission. Freshman or Sophomore year. Only one of this group required.

Classical Civilization (Greek 15, Latin 16). Freshman or Sophomore year. Freshman year for students who do not take Mathematics.

European History. Freshman, Sophomore, or Junior year.

Philosophy. Sophomore, Junior, or Senior year.

Economics and either Social or Political Science. Sophomore, Junior, or Senior year.

Argumentation (English 7, 8) (for students who did not take Mathematics in Freshman year). Sophomore year.

II. REQUIREMENTS ARRANGED BY YEARS

FRESHMAN YEAR

- I. REQUIRED STUDIES. English; French or German; Mathematics (for students who do not intend to take Argumentation in the Sophomore year); Classical Civilization (for students who do not take Mathematics); Biology, Chemistry, Geology, Physics, or Astronomy.
- II. ELECTIVE STUDIES. One three-hour course continuous through the year must be chosen from the following list: Latin, Greek, French, German, Classical Civilization, History, Chemistry, Physics, Botany, Biology, Geology, Astronomy, Mechanical Drawing.

SOPHOMORE YEAR

That portion of the required work in modern languages not completed in the Freshman year.

Biology; for students who did not take this course in the Freshman year.

Physics, Chemistry, Astronomy, or *Geology;* for students who did not present both Physics and Chemistry for admission or take a course in Physical Science in the Freshman year.

Argumentation; for students who did not take Mathematics in the Freshman year.

Classical Civilization; for students who did not take this course in the Freshman year.

English.

Other required and elective courses sufficient to make a total of fifteen hours a week.

JUNIOR YEAR

The required History, if not previously taken, and other required and elective courses sufficient to make a total of fifteen hours a week.

During the Junior and Senior years a student must take at least four courses outside the department chosen for special work. See Requirements for Concentration, pages 57, 58.

SENIOR YEAR

All required courses not previously taken, and elective courses sufficient to make a total of fifteen hours a week.

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REQUIREMENTS FOR DEGREES

III. REQUIREMENTS FOR CONCENTRATION

At the close of the Sophomore year each candidate for the degree of Bachelor of Philosophy must choose from the following list a department in which he intends to do special work during the Junior and Senior years, and must elect at least three courses of three hours a year each in this department. If he has not already taken a three-hour year course in the department chosen, he must elect four courses. These courses must be selected in consultation with the head of the department and must be approved by him. When two departments are combined, the selection must be made in consultation with the head of the department first named.

At any time before the beginning of the Senior year a student may, with the approval of the Committee on Registration and Attendance, change the department in which he is to do his special work.

With the approval of the department in which the student is doing special work, he may count as the equivalent of one course, work which does not require regular class-room attendance.

LIST OF DEPARTMENTS IN WHICH SPECIAL WORK MAY BE TAKEN

Art.

Art, and Greek Literature and History. Art, and Roman Literature and History. Art, and Music. Art, and History. Astronomy. Astronomy, and Civil Engineering. Astronomy, and Physics. Astronomy, and Mathematics. Astronomy, and Geology. Biblical Literature and History. Biblical Literature and History, and Greek Literature and History. Biblical Literature and History, and Philosophy. Biology. Botany. Botany, and Biology. Chemistry. Civil Engineering. Economics. Education. Education, and Philosophy. Education, and Social and Political Science.

Education, and History.

Electrical Engineering. English. Geology. Germanic Languages and Literatures. Greek Literature and History. Greek Literature and History, and Roman Literature and History. Greek Literature and History, and Biblical Literature and History. Greek Literature and History, and Art. History. Mathematics. Mechanical Engineering. Mechanics and Mechanical Drawing. Mechanics, and any Engineering department. Philosophy. Physics (exclusive of Electrical Engineering). Roman Literature and History. Roman Literature and History, and Art. Roman Literature and History, and Greek Literature and History. Roman Literature and History, and Indo-European Philology. Romance Languages and Literatures. Social and Political Science.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

For Students who entered before 1914

FRESHMAN YEAR

First Semester	Second Semester
Mathematics 17	Mathematics 18
Mathematics 13	Mathematics 16
Mech. Drawing 1	Mech. Drawing 2
English 1	English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Civil Engineering.

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REQUIREMENTS FOR DEGREES

SOPHOMORE YEAR

First Semester Mathematics 19 Mech. Drawing 3 Civil Engineering 1 Physics 27 ‡ Social Science Second Semester Mathematics 20 Mech. Drawing 4 Civil Engineering 2 Physics 28 ‡ Economics 1 § Civil Engineering 4 Civil Engineering 6

JUNIOR YEAR

Civil Engineering 7 Mechanics 1 Geology 3 Physics 21 Astronomy 5 Elect. Engineering 3 Civil Engineering 8 Mechanics 2 Geology 4 Physics 22 Civil Engineering 10 Civil Engineering 12 Civil Engineering 24 Civil Engineering 26 Civil Engineering 28

SENIOR YEAR

Civil Engineering 9 Civil Engineering 13 Civil Engineering 15 Civil Engineering 19 Civil Engineering 35 Mech. Engineering 19

Mechanics 3

Civil Engineering 20 Civil Engineering 22 Civil Engineering 30 Civil Engineering 32 Civil Engineering 34 Civil Engineering 36 Mech. Engineering 20 Mech. Engineering 24 Mechanics 4

‡ Or some year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Civil Engineering.
§ Civil Engineering 4 is taken during the spring recess.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

For Students who entered in 1914 or after

FRESHMAN YEAR

First Semester	Second Semester
Mathematics 13	Mathematics 16
Mathematics 17	Mathematics 18
Mech. Drawing 1	Mech. Drawing 2
English 1	Civil Engineering 2
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and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Civil Engineering.

SOPHOMORE YEAR

Mathematics 19 Physics 27 Mech. Drawing 3 ‡ Economics 1 § Civil Engineering 1 Civil Engineering 3 Civil Engineering 5

- Mathematics 20 Physics 28 English 2 ‡ Soc. or Pol. Science 1 || Civil Engineering 4 Civil Engineering 6
 - **Civil Engineering 12**

JUNIOR YEAR

Civil Engineering 7 Mechanics 1 Geology 3 Physics 21 Astronomy 5 Elect. Engineering 3 Civil Engineering 16 Mechanics 2 Geology 4 Physics 22 Civil Engineering 10 Civil Engineering 14 Civil Engineering 26

[‡] Or some year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Civil Engineering.

§ Civil Engineering 1 is taken in September during the two weeks preceding the opening of college.

| Civil Engineering 4 is taken during the spring recess.

REQUIREMENTS FOR DEGREES

SENIOR YEAR

First Semester Mech. Engineering 19 Mech. Engineering 15 Mechanics 3 Civil Engineering 37 Civil Engineering 45 ‡ Option Second Semester Mech. Engineering 20 Mech. Engineering 24 Mechanics 4 Civil Engineering 38 Civil Engineering 40 Civil Engineering 34 Civil Engineering 42 or 46 ‡ Civil Engineering 36

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

For Students who entered before 1914

JUNIOR YEAR

First Semester Mechanics 1 Elect. Engineering 1 Mech. Engineering 3 Mech. Engineering 9 Mech. Engineering 15 Physics 21 Second Semester Mechanics 2 Elect. Engineering 2 Elect. Engineering 8 Mech. Engineering 10 Mech. Engineering 16 Physics 22

SENIOR YEAR

Mechanics 3

Physics 23 Mech. Engineering 19 Elect. Engineering 9 Elect. Engineering 7 Elect. Engineering 19 Mechanics 4 Mech. Engineering 24 Civil Engineering 26 Mech. Engineering 20 Elect. Engineering 10 Elect. Engineering 14 Elect. Engineering 18 Elect. Engineering 20

[‡] In special cases, subject to the approval of the head of the Department of Civil Engineering, courses in Engineering or Science may be substituted for the thesis.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

For Students who entered in 1914 or after

FRESHMAN YEAR

First Semester Mathematics 17 Mathematics 13 Mech. Drawing 1 English 1 Second Semester Mathematics 18 Mathematics 16 Mech. Drawing 2 English 2

and two of the following courses: Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Electrical Engineering.

SOPHOMORE YEAR

Mathematics 19 Physics 27 Physics 21 ‡ Soc. or Pol. Science 1 Mech. Drawing 3 Mech. Engineering 1 Mathematics 20 Physics 28 Physics 22 ‡ Economics 1 Mech. Engineering 8 Mech. Engineering 2

JUNIOR YEAR

Mechanics 1 Elect. Engineering 1 Elect. Engineering 5 Mathematics 9 Mech. Engineering 9 Mech. Engineering 15 Mech. Engineering 3 Mechanics 2 Elect. Engineering 2 Elect. Engineering 6 Elect. Engineering 8 Mech. Engineering 10 Mech. Engineering 16

SENIOR YEAR

Mechanics 3

Physics 23 Elect. Engineering 9 Mechanics 4 Mech. Engineering 24 Civil Engineering 18 Elect. Engineering 14

‡Or some other course, not technical, chosen with the approval of the head of the Department of Electrical Engineering.

REQUIREMENTS FOR DEGREES

First Semester Elect. Engineering 11 Elect. Engineering 17 Elect. Engineering 19 Mech. Engineering 19 Second Semester Elect. Engineering 16 Elect. Engineering 20 Mech. Engineering 20 Civil Engineering 26 ‡ An elective course

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

For Students who entered before 1914

JUNIOR YEAR

First Semester
Mech. Engineering 17
Mech. Engineering 15
Mech. Engineering 3
Mech. Engineering 9
Mechanics 1
Physics 21

Second Semester Mech. Engineering 18 Mech. Engineering 16 Mech. Engineering 4 Mech. Engineering 10 Mechanics 2 Physics 22

SENIOR YEAR

Mech. Engineering 21 Mech. Engineering 5 Mech. Engineering 19 Mechanics 3 Elect. Engineering 1 Mech. Engineering 11 Mech. Engineering 25 Mech. Engineering 22 Mech. Engineering 14 Mech. Engineering 20 Mechanics 4 Elect. Engineering 2 Mech. Engineering 12 Mech. Engineering 24 Mech. Engineering 26

[‡] A three-hour course chosen with the approval of the head of the Department of Electrical Engineering.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

For Students who entered in 1914 or after

FRESHMAN YEAR

First Semester	Second Semester
Mathematics 17	Mathematics 18
Mathematics 13	Mathematics 16
Mech. Drawing 1	Mech. Drawing 2
English 1	English 2

and two of the following courses, Chemistry (if not presented for admission), French, German, subject to the direction of the Committee on Registration and Attendance. A student who presents three units in one foreign language for admission is not required to take a course in that language in college, but may elect any course he desires, subject to the approval of the head of the Department of Mechanical Engineering.

SOPHOMORE YEAR

Mathematics 19 Mech. Drawing 3 Physics 21 Physics 27 ‡ Soc. or Pol. Science 1 Mech. Engineering 1 Mathematics 20 Mech. Drawing 4 Physics 22 Physics 28 ‡ Economics 1 Mech. Engineering 2 Mech. Engineering 8

JUNIOR YEAR

Mech. Engineering 17 Mech. Engineering 15 Mech. Engineering 3 Mech. Engineering 9 Mechanics 1 Elect, Engineering 1 Mech. Engineering 18 Mech. Engineering 16 Mech. Engineering 4 Mech. Engineering 10 Mechanics 2 Elect. Engineering 2

SENIOR YEAR

Mech. Engincering 21	Mech. Engineering 22
Mech. Engineering 5	Mech. Engineering 14
Mech. Engineering 19	Mech. Engineering 20

[‡] Or some year course in the Department of English, or History, or Philosophy, chosen with the approval of the head of the Department of Mechanical Engineering.

REQUIREMENTS FOR DEGREES

First Semester Mechanics 3

Mech. Engineering 11

Mech. Engineering 25 ‡ An elective course Second Semester Mechanics 4 Civil Engineering 18 Mech. Engineering 12 Mech. Engineering 24 Mech. Engineering 26

REGULATIONS UNDER WHICH A STUDENT MAY TAKE A FIRST DEGREE IN LESS THAN FOUR YEARS

A candidate for a first degree who has maintained a satisfactory standing in his studies may, with the consent of the Committee on Registration and Attendance, take work in addition to the regular number of hours prescribed in the curriculum of the course which he is pursuing.

A student who at the beginning of his Senior year lacks less than thirty semester hours of completing his course may, with the consent of the Committee on Registration and Attendance, distribute his work over the year.

A student who at the beginning of any semester lacks less than fifteen semester hours of completing his course may, for reasons deemed sufficient by the Committee on Registration and Attendance, be excused from taking more than the necessary number of hours.

A candidate for a first degree, who has credit for the required number of hours of work, including all the required subjects, may, at the end of the semester in which his work is completed, be excused from further attendance at the University, and may receive his degree at the Commencement next following such semester.

A candidate for a first degree may receive credit for work done at the summer school of an approved institution of collegiate rank, provided that the work have the approval of the head of the corresponding department in Brown University. The amount of credit given at the institution in question will be given at Brown University, but the total credit for work at a summer school in any one summer shall not exceed nine semester hours. Written applications for such work must be filed at the Registrar's office before the annual Commencement on blanks provided for the purpose.

A candidate for a first degree may, with the consent of the head of a department and with the approval of the Faculty, pursue studies connected with that department during any summer in which he does not attend a summer school, and may receive credit for such studies, provided that the work be done under the supervision of the head of the department concerned and that the candidate pass an examination in all the work before the beginning of the next

* A three-hour course chosen with the approval of the head of the Department of Mechanical Engineering.

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academic year. The amount of credit will be determined by the head of the department, but the total credit for any one summer shall not exceed six semester hours. Applications for such work must be approved by the head of the department concerned, and must be filed at the Registrar's office before June 1, on blanks provided for the purpose. A student will not be allowed to do summer work in connection with any department of the University until he has presented to the head of the department a registration card signed by the Registrar.

For conditions under which graduate work may be pursued during the Senior year, see page 67, "Admission of Graduate Students."

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GRADUATE STUDY

ADMISSION OF GRADUATE STUDENTS. To be admitted as a candidate for an advanced degree, an applicant must have received the degree of Bachelor of Arts, of Philosophy, of Science,‡ or of Letters from Brown University, or some other college of good standing; or, being a student in Brown University, must have completed with a rank of *B* the work leading to the degree of Bachelor of Arts, of Philosophy, or of Science, with the exception of such an amount as the Committee on Registration and Attendance will allow him to take in excess of a full year's work (fifteen hours a week). A candidate for the degree of Master of Science must have completed in his undergraduate course at least twenty-eight year-hours of work in mathematics and the sciences.

Persons who have obtained the degree of Bachelor of Arts, of Philosophy, of Science, or of Letters, and who desire to pursue graduate studies without being candidates for an advanced degree, are admitted as special graduate students. Such students are subject to all the regulations of the University regarding graduate students except those which relate to candidacy for degrees.

REGISTRATION AND ENROLMENT OF GRADUATE STUDENTS. On or before the first day of the academic year, every candidate for registration as a graduate student must file an application with the Dean of the Graduate Department naming the departments, not exceeding three, which he wishes to enter. The application must be made on a blank provided by the Dean, and the blank must be signed by the heads of the departments concerned. The candidate, if not a student or graduate of Brown University, must submit to the Dean, with his application, his diploma or other official evidence of having received a first academic degree, together with a marked catalogue or detailed statement showing the academic courses he has pursued.

At the beginning of each semester, every graduate student must enrol at the Registrar's office before entering any classes. At the beginning of the first semester, an authorization blank signed by the Dean of the Graduate Department must be presented. At the beginning of the second semester, an authorization blank will not be required unless a change in courses is made.

A student who has been registered as a graduate student is enrolled as a candidate for a degree when his course of study for the degree has been approved by the Dean of the Graduate Department and by the Faculty. Although graduates of other colleges of good standing are entitled to registration as graduate students, they are not enrolled as candidates for degrees unless the course of study previously pursued by them is, in the opinion of the Dean of the Graduate Department, acting in consultation with the Committee

[‡] The degree of Bachelor of Science when given for technical work does not lead to the degree of Master of Arts or Doctor of Philosophy in Brown University.

on Registration and Attendance, substantially equivalent to the course leading to the corresponding degree in Brown University. Graduates of colleges in which the course of study is not, in the opinion of this joint committee, equivalent to the corresponding course at Brown University, will be registered as graduate students, but if enrolled, they will be required to make up their deficiency under the direction of the committee.

Candidates for advanced degrees must have their selection of courses approved by the heads of the departments in which they are working, and a statement of these courses must be submitted by the heads of the departments to the Dean of the Graduate Department on or before October 15. In the case of candidates for the degree of Doctor of Philosophy, the statement submitted in the first year of candidacy may be a preliminary outline of the course, but a final statement must be submitted by the head of the department in which the major subject lies not later than October 15 in the last year of candidacy. No change can be made without the consent of the Dean of the Graduate Department and of the head of the department which offers the course.

Graduates of Brown University who have to their credit work done as undergraduates and not counted towards the bachelor's degree may offer such work in partial fulfilment of the requirements for an advanced degree, provided such work is in courses which may be taken by graduates and does not lie in more than three departments, and provided the student has completed the work with an average grade of B.

When graduate students pursue courses designed for graduates and undergraduates, an average grade of C will be required, if the courses are to count toward an advanced degree.

Only such courses will be counted in satisfaction of the requirements for the degree of Master of Arts as have been approved by the Committee on the Curriculum.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS. To obtain the degree of Master of Arts, the candidate must complete a course of liberal graduate study of not less than fifteen hours a week for one year. When graduate students pursue courses primarily designed for undergraduates, a higher degree of scholarship than in the case of undergraduates will be required.

Work done in residence for an advanced degree at another institution, and not to be used in fulfilment of the requirements for an advanced degree elsewhere, may, with the approval of the Dean of the Graduate Department, be offered in partial fulfilment of the requirements for the degree of Master of Arts; but the equivalent of at least nine hours' work a week for one year must be done at Brown University.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE. To obtain the degree of Master of Science, the candidate must complete a

GRADUATE STUDY

course of scientific study satisfactory to the Dean of the Graduate Department and the departments concerned, of not less than fifteen hours of work a week for one year, and must present a thesis in one of the graduate courses which he is pursuing; in place of the thesis a six-hour graduate laboratory course extending through the year may be accepted. All the work must be in one or more of the following subjects: mathematics, engineering, physics, chemistry, astronomy, the biological sciences, psychology, geology, and mineralogy. At least half the work must be in courses designed wholly or primarily for graduates; the remainder may consist of any courses satisfactory to the departments concerned and to the Dean of the Graduate Department.

All the work must be done in residence at Brown University with the exception that work done for the degree of Master of Science at another institution, and not to be used in fulfilment of the requirements for any degree elsewhere, may, with the approval of the Dean of the Graduate Department and the departments concerned, be accepted in partial fulfilment of the requirements for the degree of Master of Science to the extent of not more than six hours of work a week for one year.

REQUIREMENT FOR THE DEGREE OF DOCTOR OF PHILOSO-PHY.[‡] To obtain the degree of Doctor of Philosophy, the candidate must spend at least two years continuously in residence, pursuing a systematic course of advanced study approved by the Graduate Department, the Faculty, and the Board of Fellows, and must pass satisfactory examinations thereon. The candidate must conclude his course with a thesis embodying the results of original research, giving evidence of high scholarship and of special attainments in the studies pursued, and constituting as a whole a definite contribution to knowledge. The candidate is examined publicly before June 1 by a committee consisting in each case of the Graduate Department, together with those members of the Faculty who have directed his work and any other officers of professorial rank in the departments concerned. The examination is held only when notification of the intention to appear for examination is given on or before April 1 of the year in which the candidate desires to obtain his degree. The thesis must be presented to the Faculty, in typewritten copy or print, before May 1 in that year. The approval of this thesis by the Faculty is essential to the attainment of the degree.

Work done in residence for the degree of Doctor of Philosophy at another institution, and not to be used in fulfilment of the requirements for an advanced degree elsewhere, may, with the approval of the Dean of the Graduate Department, be offered in partial fulfilment of the requirements for the degree of Doctor of Philosophy. One full year of continuous work, consisting of at least one-half of the minimum requirements for the major and one-half of the minimum requirements for the major at Brown University.

[‡] As a rule the requirements for this degree, including the thesis, cannot be satisfied in less than three years.

For the degree of Doctor of Philosophy at least two subjects are necessary, a major and a minor, not in the same department; the major subject must constitute not less than three-fifths of the candidate's work. The selection of the courses constituting the major and the minor subjects must receive the approval of the head of the department in which the major subject lies, and of the Dean of the Graduate Department. The approval of the head of the department in which the minor subject lies is also necessary for the courses elected in his department.

The candidate must possess a reading knowledge of Latin, German, and French adequate for the purposes of his special studies, unless for sufficient reasons he is excused in respect to one of these languages. To test the candidate's proficiency in this particular, he is examined before December 1 in the last year of his candidacy by a committee consisting of the heads of the departments in which the major and the minor subjects lie, and the heads of the departments of Latin, German, and French.

A year of work for the degree of Master of Arts may be, but is not necessarily, counted as a year of work for the degree of Doctor of Philosophy. Whenever the undergraduate degree and the degree of Master of Arts are taken at the same time the work done for the degree of Master of Arts will not be counted in fulfilment of the requirements for the degree of Doctor of Philosophy.

FEES FOR GRADUATE STUDENTS. See page 176.

ATTENDANCE, STANDING, AND EXAMINATIONS

ATTENDANCE. Every student is required to attend every session of the classes in which he is registered, including gymnasium, and also the daily chapel service.

STANDING. A record is kept of the attendance of every student and of his proficiency in his several studies. At the close of each semester a report is sent to the parent or guardian of every undergraduate student containing a record of all his absences from required exercises, and indicating his standing in each of his studies for the semester and his deficiency in any study or studies, if any deficiency exists. A student who has failed in three or more courses in any semester, counting for more than eight hours a week, cannot continue his work without the permission of the Committee on Registration and Attendance.

There are four pass grades : A, B, C, D. No student will be allowed to graduate who has not attained a grade above D in at least sixty semester hours of college work.

E is assigned to those who have failed to pass; or to those whose work during these mester has been so unsatisfactory that, in the opinion of the instructor, they should not be allowed an examination; or to those who, in a laboratory course, have not completed half the work required.

O is assigned to those who have been absent one-half the time in a course, or to those whose absence from the examination is not excused by the Dean.

A student who receives the mark E in a required course must repeat the course again in class, or make up the deficiency to the satisfaction of the department concerned, by work at an approved summer school. If the failure is in an elective course, he may substitute some other course, if approved by the Committee on Registration and Attendance, or he may take an equivalent amount of approved summer work.

I is assigned to those whose semester work is incomplete, but satisfactory so far as done. All incomplete work must be made up before the middle of the following semester unless special permission for extension of time is given by the Committee on Registration and Attendance. If this requirement is not met, the mark will be changed to E.

Abs. is assigned to those who were absent from examination, unless E has already been assigned.

A student whose semester work is incomplete and who is absent from the examination is assigned the marks I and Abs.

A student who, in any semester, has failed in three or more courses counting for more than eight hours a week, will not be registered again without special action of the Committee on Registration and Attendance.

EXAMINATIONS. All classes are examined at the close of each semester. A student is not admitted to the examination in a study in which he has received the mark E or O.

Examinations other than the regular semester examinations are given only in the cases of students who have received the mark *Abs.* and whose absences have been excused by the Dean, and candidates for advanced standing; except that candidates for the degree of Bachelor of Science who have failed in a first examination may, at the discretion of the department concerned, be given a second examination, subject to the regulations below. Such students must present to the department satisfactory evidence that the work of the course has been thoroughly reviewed.

A student is not admitted to a special examination except on written authorization from the Registrar. If the examination is taken to remove the mark Abs, the student must pay to the Registrar a fee of two dollars.

Special examinations upon the work of the first semester are given only during the following spring recess. Special examinations upon the work of the second semester are given only in the following September on as many days as may be necessary preceding the opening of the academic year, except that special examinations on the work of the second semester of the Senior year are given on the Saturday and Monday after the examination period in June.

Students desiring special examinations in the spring recess must make application to the Registrar not later than March 1, specifying the subjects in which examinations are desired. On or before March 15 a schedule of special examinations will be posted. Students desiring special examinations in September must make application to the Registrar not later than August 15, specifying the subjects in which examinations are desired. A schedule of the September examinations is sent about September 1 to the students concerned.

Special examinations at times other than those scheduled are allowed only by consent of the Committee on Registration and Attendance.

Special examinations for advanced standing are, so far as possible, arranged at the times assigned for other special examinations.

EXAMINATIONS IN ENTRANCE CONDITIONS. Members of the Freshman class who enter with conditions in English 1, English 2, Algebra, or Plane Geometry are required to take regular instruction in these subjects during the Freshman year under a tutor approved by the department concerned. A special examination will be given on completion of the work, but in no case before the close of the Christmas recess.

Students who enter with conditions in Language, Science, History, Solid Geometry, Plane Trigonometry, or Advanced Algebra, must remove these conditions, by examination, before the beginning of the Sophomore year; otherwise such conditions will be regarded as deficiencies in college work and the students required to take extra courses in the departments in which the defi-

ATTENDANCE, STANDING, AND EXAMINATIONS

ciencies occur, the amount and selection of the courses to be determined by the Committee on Registration and Attendance in consultation with the departments.

Students who fail to meet the entrance requirements in English or Mathematics before the beginning of the Junior year shall not be allowed to register until these deficiencies have been removed. This rule applies to students entering in 1914.

For members of the Freshman class, special entrance examinations are given by the University at the close of the Christmas recess in all subjects except English, Algebra, and Plane Geometry. Students desiring to take these examinations must file written applications with the Registrar before December 1. No student who has failed in an entrance examination will be granted a second examination at any time other than September, except on presentation of a tutor's certificate that he is prepared for such examination, and on payment of a fee of two dollars. No entrance examinations other than those appointed above will be held unless ordered by the Committee on Registration and Attendance.

COURSES OF INSTRUCTION

HEN semester courses are grouped in one paragraph (e.g. Biology 1, 2), they constitute a year course and neither semester may be elected independently unless specific statement to the contrary is made. In starred courses a final mark covering the work of the course as a whole is given at the end of the course, the marks given at the end of the first semester being regarded as temporary. When the time of meeting is not announced, it will be arranged by the instructor at the beginning of the semester.

I. ART‡

FRANCIS GREENLEAF ALLINSON, PH.D., David Benedict Professor of Greek Literature and History, Director of the Museum of Fine Arts JOHN SHAPLEY, PH.D., Instructor in Art

11, 12. General History of Art

A comprehensive introduction to the subject. Lectures, reading, reports.

Three hours. Through the year. Elective for Undergraduates. Either semester may be elected independently. Mon., Wed., Th., at 10.20.

13. Greek Sculpture

A study of its origin and development. Lectures, reading, reports. Three hours. First semester. Elective for Seniors and Graduates, and for others who have credit for or are taking 11.

14. Italian Renaissance Painting

A brief consideration of the principal schools and masters and of the culture on which the art of the time was based. Lectures, reading, reports.

Three hours. Second semester. Elective for Seniors and Graduates, and for others who have credit for or are taking 12.

15,* 16.* Freehand Drawing

Training of hand and eye by study in charcoal and pencil of casts and still-life objects.

One hour. Two hours of drawing. Through the year. Elective for Undergrad-

‡ For arrangements with the Rhode Island School of Design, see page 169.

ASTRONOMY

uates. Given at the Rhode Island School of Design. Hours to be arranged with the Director.

17,* 18.* Advanced Drawing

Three hours. Six hours of drawing, or four hours of drawing and one hour lecture on Historic Ornament. Through the year. Elective for students who have credit for or are taking 1. 2, and who have credit for 15, 16. Given at the Rhode Island School of Design. Mon., Tu., Wed., at 2. Lecture hour to be arranged with the Director.

II. ASTRONOMY

ROLAND GEORGE DWIGHT RICHARDSON, PH.D., Professor of Pure Mathematics, Acting Director of the Ladd Observatory CLINTON HARVEY CURRIER, A.M., Instructor in Mathematics

1, 2. General Course

Designed for general culture and preparation for technical work. Fundamental conceptions; methods of professional study. First semester, chief topic: the movements of the heavenly bodies. Second semester, chief topics: the physical condition of the heavenly bodies; the sidereal universe. *Mr.* CURRIER.

Three hours. Through the year. Elective for candidates for the degree of Bachelor of Arts or Bachelor of Philosophy who have credit for or are taking Plane Trigonometry. *Mon.*, *Wed.*, *Th.*, *at 10.20*.

5. Field Astronomy

The astronomical problems of geodesy: azimuth, time, latitude, longitude. Computations and observations. Mr. CURRIER.

Four hours. First semester. Required of candidates for the degree of Bachelor of Science in Civil Engineering. Elective for Undergraduates who have credit for Mathematics 16. Mon., Tu., Th., Fri., at 2.20. Observations at Ladd Observatory.

[7, 8. Advanced Astronomy]

Three hours. Through the year. Elective for approved students. Not offered in 1915-16.

III. BIBLICAL LITERATURE AND HISTORY 15

HENRY THATCHER FOWLER, PH.D., Professor of Biblical Literature and History

-, Lecturer in Biblical Literature and History

LANGUAGES

1, 2. Elementary Hebrew

Grammar; exercises in writing Hebrew; translation of parts of Genesis and Deuteronomy. *Professor* FowLER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates.

3, 4. Historical Hebrew

Reading of the books of Samuel and Kings with special attention to the acquisition of a vocabulary; review of the elements of Hebrew grammar and study of syntax. *Professor* FOWLER.

Three hours. Through the year. Elective for students who have credit for 1, 2.

5, 6. Hebrew Literature

Critical translation and study of the characteristics and development of some one of the great divisions of Hebrew literature — Psalm, Wisdom, Legal, or Prophetic. *Professor* FowLER.

Three hours. Through the year. Offered if applied for by students who have credit for 3, 4.

7. Textual Criticism of the Old Testament

The principles and method of textual criticism, in connection with the study of one of the shorter prophetic books.

Three hours. One semester. Offered if applied for by students who have credit for 3, 4.

8. Biblical Aramaic

Grammar and reading of the Aramaic portions of the Old Testament. Three hours. One semester. Offered if applied for by students who have credit for 1, 2.

[‡] For conditions under which students may receive credit in the Newton Theological Institution for work done in this department, see page 169.

§ For courses for the training of leaders in Religious Education, see page 153.

9, 10. Elementary Arabic

Grammar; exercises in writing Arabic; translation of prose selections. *Professor* FowLER.

Three hours. Through the year. Offered if applied for by Seniors or Graduates.

11, 12. Gospels and Epistles

Characteristics of Hellenistic Greek; translation, and investigation of date, authorship, and thought. First semester, the Gospel and Epistles of John, the Gospel of Mark. Second semester, the Gospels of Matthew and Luke. *Professor* FowLER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Either semester may be elected independently. *Tu.*, *Fri.*, *Sat.*, *at 10.20*.

[13, 14. Acts and Pauline Epistles]

First semester, Acts and Thessalonians. Second semester, Galatians, Corinthians, and Romans.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Not offered in 1915-16.

LITERATURE AND HISTORY IN ENGLISH

15, 16. Biblical History

The rise of Israel in the ancient world; the political, social, and religious development of the nation and its contribution to civilization; the founding and growth of Christianity in the Jewish and Graeco-Roman world. First semester, from the dawn of history in Egypt and Babylonia to the close of the Persian rule. Second semester, from Alexander's conquest of the East through the rise and spread of Christianity in the first century A.D. *Professor* FowLER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Either semester may be elected independently. Mon., Wed., Th., at 10.20.

19, 20. The English Bible as Literature

An outline of the literary history of the Old and New Testaments; the literary forms represented in the Bible; the place of the Bible in English literature. Emphasis placed upon the literature itself and its connection with the present. Lectures and assigned readings from the English Bible. First semester, Old Testament literature from the beginning to the close of the Persian Age. Second semester, the completion of the Old Testament, and the New Testament literature. *Professor* FOWLER.

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently. Mon., Tu., Th., at 11.20.

21,* 22.* Biblical Seminary

Subject for 1915–16: Messianic Prophecy. An investigation of Jesus's interpretation and the interpretation of the New Testament writers in relation to the current forms of the Jewish hope and the Messianic element in the Old Testament.

Subject for 1916-17: Sunday-school Organization and Instruction. Professor FowLER.

Three hours. Through the year. Elective for Graduates and approved Juniors and Seniors who have taken courses in Biblical Literature and History.

30. History of Religion

An outline study of the history of the principal religions of the world. This course is the same as course 30 offered by the Department of Philosophy. *Professors* FOWLER and JONES.

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. Wed., Fri., Sat., at 11.20.

IV. BIOLOGY[†]

ALBERT DAVIS MEAD, PH.D., Sc.D., Professor of Biology FREDERIC POOLE GORHAM, A.M., Professor of Bacteriology HERBERT EUGENE WALTER, PH.D., Associate Professor of Biology PHILIP HENRY MITCHELL, PH.D., Assistant Professor of Physiology JOHN BURNHAM FERGUSON, A.B., M.D., Demonstrator in Anatomy SAMUEL EARL LONGWELL, A.B., Assistant in Biology

1, 2. General Biology

The structure of animals and plants; elementary vital phenomena; the functions of organs; the development of organisms; classification. An outline of the more important biological theories, such as evolution, natural selection, variation, mutation and heredity, and the principles upon which modern hygiene and sanitation are based. The course will introduce the student to the use of the microscope, laboratory technic, and to scientific methods of observation and experiment. *Professors* GORMAM and YORK and *Mr.* LONOWELL.

\$ By written consent of the department 3, 4; 5, 6; 7, 8; 9, 10; 13, 14; 17, 18 may be elected for six hours.

BIOLOGY

Three hours. Six hours of attendance. Through the year. Required in Freshman or Sophomore year of candidates for the degree of Bachelor of Philosophy. Elective for Undergraduates. Lectures, Mon., Tu., Th., at 3.20. Laboratory, 1st div., Mon., Tu., Th., at 2.20; 2d div., Tu., Th., Sat., at 12.20.

3, 4. Comparative Anatomy of Vertebrates

Intended not only for the general student, but also for those who are particularly interested in zoölogy and for those who expect to study medicine. The structure and significance of the various organs of vertebrates with particular reference to man. Students are permitted to attend clinics and autopsies at the Rhode Island Hospital. Laboratory work and lectures. *Professor* WALTER.

Three hours. Six hours of attendance. Through the year. Elective for Sophomores, Juniors, and Seniors who have credit for 1, 2. Mon., Wed., Fri., at 8.

[5, 6. Anatomy of the Nervous System]

A study of the gross and microscopic anatomy of the brain, nerves, and sense organs in man and other vertebrates. Designed particularly for those intending to study medicine or psychology.

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2. Not offered in 1915-16.

7, 8. Embryology and Histology

The origin of the individual and the developmental process from the egg to the adult; the material basis of heredity; the composition of the body and its organs from the viewpoint of its vital units, the cells. Practice in micro-technic. Adapted to the requirements of general students and of those intending to study medicine. *Professor* MEAD. Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2. *Tu.*, *Th.*, *Sat.*, at 8.

9, 10. Advanced Histology and Pathology

Work in micro-technic and in normal and pathological histology. Adapted to individual requirements. *Professor* MEAD.

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 1, 2, and 7, 8.

11, 12. General Physiology

General vital processes in plants and animals; the more special phenomena in higher animals, with their application to human physi-

ology. Designed not only as an introduction to further work, but also as a general view of physiology. Lectures and laboratory work. *Professor* MITCHELL.

Three hours. Six hours of attendance. Through the year. Must be preceded by 1, 2, and by Chemistry 1, 2. Elective for Juniors and Seniors, and for Sophomores who are not taking any other course in the department. Mon., Tu., Th., at 11.20.

13, 14. Chemical Physiology

The chemistry of proteins, carbohydrates, and fats; the physiology of the digestive system, with the study of secretions and of artificial salivary, gastric, and pancreatic digestions; examination of blood, bile, and urine; the analysis of foods, with special reference to milk. Designed for those who are interested in physiology either from a medical or a general standpoint, and for those who are specializing in chemistry and desire a knowledge of vital chemical processes. *Professor* MITCHELL.

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for or are taking Chemistry 7, 8. *Tu., Fri., Sat., at 10.20.*

15. Invertebrate Zoölogy

A study of the natural history of invertebrate animals, particularly marine forms, insects, and protozoa. Lectures with laboratory and field work. *Professor* WALTER.

Three hours. Six hours of attendance. First semester. Elective for Undergraduates. Tu., Th., Sat., at 8.

16. Bacteriology

A general discussion of bacteria in all their relations, with special attention in the laboratory to the methods of studying bacteria, including the isolation, systematic study, and determination of unknown species. Lectures and laboratory work. *Professor* GORHAM.

Three hours. Six hours of attendance. Second semester. Elective for Juniors and Seniors, and for Sophomores who are not taking any other course in the department. Mon., Wed., Th., at 10.20.

17, 18. Advanced Bactcriology

Practical work in the preparation of culture media; methods of sterilization and disinfection; qualitative and quantitative biological examination of water, milk, air, soil, and sewage; study of certain

BIOLOGY

pathogenic organisms, with the determination of their pathogenic properties, and the methods of bacteriological diagnosis of disease. Laboratory work and seminary. *Professor* GORHAM.

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 16.

20. Ornithology

A study of birds regarded as a group of living animals, in relation to their environment. Lectures and early morning field trips for the identification of wild birds during their spring migration. *Professor* WALTER.

One hour. Two hours of attendance. Second semester. Elective for Undergraduates.

22. Evolution

The history of biology, principles of classification, geographical distribution, heredity, natural selection, variation, Mendelism, and the relationship of man to the lower animals. Designed more particularly for those who have not studied biology. Lectures and assigned reading. *Professor* MEAD.

Three hours. Second semester. Elective for Juniors and Seniors. Wed., Fri., Sat., at 11.20.

[24. Physiology]

A general survey of the activities of living organisms with special reference to the human body, including some applications of modern physiology to healthful living. Lectures and assigned reading. Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1915–16.

33, 34. Biological Research

Research work arranged to meet the requirements of individual students. *Professor* MEAD.

Three to twelve hours. Through the year. Elective for Graduates.

35, 36. Advanced Physiology

Laboratory work and seminary. Professor MITCHELL.

Three to twelve hours. Through the year. Elective for Graduates who have sufficient knowledge of chemistry and physiology.

37, 38. Bacteriological Research

Research work arranged to meet the requirements of individual students. *Professor* GORHAM.

Three to twelve hours. Through the year. Elective for Seniors and Graduates who have credit for 16 and 17, 18.

39, 40. Biological Theories and Problems

Seminary course. *Professor* MEAD. One to three hours. Through the year. Elective for Graduates.

41, 42. Zoölogical Seminary

Reading and discussion of German zoölogical literature selected with reference to the needs of individual students. *Professor* WALTER. One to three hours. Through the year. Elective for Graduates.

V. BOTANY

HARLAN HARVEY YORK, PH.D., Assistant Professor of Botany JAMES FRANKLIN COLLINS, PH.B., Demonstrator in Botany WALTER HENRY SNELL, M.A., Assistant in Botany

1, 2. Plant Biology, General Course

Designed not only as a general culture course, giving the student a definite conception of the vital importance of botany as related to modern life, but also as a preliminary training for those who contemplate further work in botany. The origin, development, structure, physiology, and classification of plants. A discussion of biological subjects of fundamental human interest, such as evolution, the origin of new species, and the general laws of inheritance in plants.

Three hours. Six hours of attendance. Through the year. Elective for Undergraduates. Lectures, Mon., Wed., at 8. Laboratory, Mon., Tu., 2.20 to 4.20.

3, 4. Physiological Anatomy

Intended for students who are planning to study medicine, agriculture, forestry, or plant pathology, as well as for those who expect to teach or pursue further work in botany. The origin, minute structure, and physiological function of plant tissues; reproduction, cytology, methods in micro-technic. The biological purpose of this course is to help the student to understand how plants, by the differentiation of cells and their association into tissues adapted to perform dif-

BOTANY

ferent kinds of work, are able to meet the conditions of their environment.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or its equivalent.

5, 6. Comparative Morphology and Phylogeny

Designed not only for the general student, but for those who expect to teach, and for those who are particularly interested in botany. Methods in micro-technic. Intended to acquaint the student with a wider range of scientific methods in plant biology through a more comprehensive knowledge of plant forms and the more fundamental conclusions of morphology and phylogeny. Special emphasis will be placed upon the evolution, morphology, and classification of plants. Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or its equivalent.

7, 8. Special Course

Special work on various phases of botany arranged to meet the requirements of individual students. May be taken in successive years. Students electing this course must plan it definitely, in consultation with the instructor, before June 1 of the preceding academic year. Three hours. Through the year. Either semester may be elected independently. Elective for Graduates, and for approved Juniors and Seniors. By written consent of the department this course may be elected for six or nine hours.

9. Diseases of Plants

Designed to give the student a definite idea of one of the most fundamental relations of botany to the food supply of man, and to stimulate further inquiry into an inexhaustible field of science. An introduction to the nature, causes, and remedies of diseases of plants. Lectures and demonstrations.

One hour. Two hours of attendance. First semester. Elective for Undergraduates. Lectures, Fri. at 8.

10. Trees

Intended to familiarize the student with the common native and introduced trees of Rhode Island. Special attention will be given to their structure and economic value. Lectures and field work.

One hour. Two hours of attendance. Second semester. Elective for Undergraduates. Lectures, Fri. at 8.

[11, 12. Physiology]

Includes a study of imbibition, diffusion, osmosis, turgor, and the retention of bodily form; relation of soil and solutes to the plant; transpiration and exudation; movement of materials within the plant body; photosynthesis; respiration; growth and movement; reproduction and death.

Three hours. Six hours of attendance. Through the year. Elective for Juniors and Seniors who have credit for 1, 2, and 3, 4, or 5, 6, and for Graduates. Not offered in 1915-16.

13, 14. Plant Pathology

General course, including the identification of bacteria and fungi which cause diseases in our more common cultivated and native plants and native and introduced trees; their manner of infection and effects on their hosts, methods of prevention and control, and methods of culture and inoculation which are employed in the laboratory in the study of diseases of plants.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, and 3, 4, or 5, 6.

VI. CHEMISTRY[‡]

JOHN EMERY BUCHER, PH.D., Newport-Rogers Professor of Chemistry ROBERT FOSTER CHAMBERS, PH.D., Instructor in Chemistry SAMUEL TOMLINSON ARNOLD, Sc.M., Instructor in Chemistry HERBERT ELLIOTT FOOTE, A.M., Assistant in Chemistry CHESTER LEWIS KNOWLES, Sc.M., Assistant in Chemistry

1, 2. Descriptive Chemistry §

Non-metals; metals, their metallurgy, compounds, and practical ap-

[‡] Courses 1-4, 7, 8, and 15, 16, are designed to give a thorough general introduction to chemistry to serve as a foundation for teaching chemistry, or for advanced study in medicine, bacteriology, botany, and chemistry. The additional course, 9, is offered for those who intend to follow sanitary work.

[§] Credit for the entrance requirement in Chemistry admits only to 1, 2, which may be taken also without previous preparation. Students who wish to enter more advanced courses without taking 1, 2 must pass a special test at the time of the entrance examination in Chemistry. This test will cover the following topics: 1. All of the non-metals with their principal compounds and the processes of manufacture of the chief commercial products from non-metals. 2, About thirty important metals, their occurrence, preparation from the ore, the preparation and uses of their chief compounds. 3. The general principles of chemical action which depend upon physical laws. 4. Methods of making chemical computations of moderate difficulty. Preparation for this test may require the equivalent of six hours a week for one school year.

CHEMISTRY

plications; theoretical chemistry. Lectures with experiments; written exercises; individual laboratory work. *Professor* BUCHER and Mr. FOOTE.

Three hours. Through the year. Elective for Undergraduates. 1st div., Mon., Th., at 10.20; 2d div., Tu., Fri., at 10.20. Laboratory hours to be arranged with the instructor.

3, 4. Qualitative and Quantitative Analysis

Properties of the metallic elements; their separation from certain of their compounds. The principal non-metals and the acids formed by them; methods of separation and recognition of acids and acid radicles. Quantitative precipitations and separations of the most important elements and compounds; the principles upon which quantitative apparatus is constructed. Laboratory work; recitations in qualitative analysis and in chemical theory; exercises in stoichiometry. *Professor* BUCHER and Mr. ARNOLD.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2. Ist div., Fri. at 11.20; 2d div., Sat. at 10.20. Laboratory hours to be arranged with the instructor.

5, 6. Quantitative Analysis, Advanced Course

Acidimetry and alkalimetry, analysis of pure chemical compounds, minerals, ores, slags, alloys, limestone, iron, and steel; analysis of organic compounds; examination of agricultural products, testing of chemicals used in textile establishments, gas analysis, etc. *Professor* BUCHER and Mr. ARNOLD.

Six hours. Twelve hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 3, 4. Laboratory hours to be arranged with the instructor.

7, 8. Organic Chemistry

Preparation and analysis of representative organic compounds. Lectures, recitations, and laboratory work. Dr. CHAMBERS.

Six hours. Through the year. Elective for approved Juniors, Seniors, and Graduates who have credit for 3, 4. By written consent of the department 8 may be elected for three hours. *Mon.*, *Th.*, *Fri.*, *at 9.20*.

9. Sanitary Chemistry

Qualitative and quantitative examination of air, water, food and food adulterants, flour, bread, milk, butter, etc. Also, the analysis of sew-

age and effluents. Lectures, recitations, and laboratory work. *Professor* BUCHER and Mr. FOOTE.

Three hours. First semester. Elective for students who have credit for 1-4 and 7, 8.

10. Assaying

Professor BUCHER.

Three hours. Six hours of attendance. Second semester. Elective for Seniors and Graduates who have credit for 1-6.

12. Organic Dyes

The chemistry and use of mordants, dyes, etc. Professor BUCHER and Mr. FOOTE.

Three hours. Six hours of attendance. Second semister. Elective for approved Seniors and Graduates.

13, 14. Industrial Chemistry

Lectures and laboratory work. Professor BUCHER.

Three hours. Six hours of attendance. Through the year. Elective for approved Graduates. By written consent of the department this course may be elected for six or nine hours.

15, 16. Physical Chemistry

Lectures and laboratory work. *Professor* BUCHER and Mr. KNOWLES. Three hours. Through the year. Elective for approved Juniors, Seniors, and Graduates.

[17, 18. Physical Chemistry, Advanced Course]

Lectures and laboratory work.

Three hours. Through the year. Elective for approved Graduates who have credit for Physics 1-4, and have credit for or are taking Mathematics 7, 8. Not offered in 1915–16.

19. Organic Chemistry, Advanced Course

Professor BUCHER.

Three hours. First semester. Elective for approved Graduates.

20. Inorganic Chemistry, Advanced Course Professor BUCHER.

Three hours. Second semester. Elective for approved Juniors, Seniors, and Graduates.

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21, 22. Organic Preparations, Advanced Course Professor Bucher and Dr. CHAMBERS.

Three hours. Through the year. Elective for approved Juniors, Seniors, and Graduates. By written consent of the department this course may be elected for six or nine hours.

23, 24. Inorganic Preparations, Advanced Course Professor Bucher and Dr. CHAMBERS.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 7, 8. By written consent of the department this course may be elected for six or nine hours.

25, 26. Research Work in Chemistry Professor BUCHER. Three or more hours. Through the year. Elective for Graduates.

27, 28. Conference on Special Topics in Chemistry Professor BUCHER. One hour. Through the year. Elective for approved students.

29, 30. Industrial Chemistry and Research Professor Bucher.

Three or more hours. Through the year. Elective for approved Graduates.

32. Industrial Analysis

Analysis of commercial products. Lectures, recitations, and laboratory work. *Professor* BUCHER and Mr. KNOWLES.

Three hours. Second semester. Elective for students who have credit for 1-8 and 15 and 16.

VII. CIVIL ENGINEERING[†]

For Students who entered before 1914

JOHN EDWARD HILL, C.E.M., Sc.D., Professor of Civil Engineering HARDY CROSS, Sc.B., C.E.M., Assistant Professor of Civil Engineering LEIGHTON TEETERICK BOHL, Sc.B., Instructor in Civil Engineering

7, 8, 9. Railroad Engineering Theory, location, construction, and economics of railroad engineering.

[‡] All courses in this department are required for the degree of Bachelor of Science in Civil Engineering.

Lectures, recitations, field work, and drafting. First semester, actual location of a line about two miles long, map, and estimate of cost. Second semester, railroad track and track work; maintenance of way department; economics of location. First semester, earthwork and its cost; rock excavation; tunneling. *Professors* HILL and CROSS, *Mr*. BOHL. Three (six hours of field work), two, and two hours. First, second, and first semesters. Course 7 is elective for students who have credit for 2. Courses 8 and 9 are elective for Juniors and Seniors. First semester, *Wed.*, 9.20 to 5. Second semester, *Wed.*, *Fri.*, at 11.20. First semester, *Fri.* at 9.20; *Mon.*, 2.20 to 5.20.

10. Geodesy

Problems in geodetic surveying, with sufficient theory for a proper understanding of the formulas used. Lectures, recitations, and computations. *Professor* HILL and Mr. BOHL.

Two hours. One hour of recitation and two hours of computations. Second semester. Elective for students who have credit for 4, and Astronomy 5. Tu. at 9.20; Mon., 3 to 5.

12. Highway Engineering

Economics and location of country roads; surveys, grades, drainage, and foundations; construction and maintenance; economics and design of pavements; dust prevention and preservation of macadam roads; use of bituminous materials in the construction and maintenance of roads; methods of testing road materials; roads and pavements in foreign countries; systems of administration and maintenance; highway laws. Lectures, recitations, inspection trips, and seminary work. Mr. BOHL.

Three hours. Second semester. Elective for Sophomores, Juniors, and Seniors. Mon., Tu., Fri., at 8.

13. Hydraulic Engineering ‡

Consideration of water supply mainly from a sanitary standpoint. A general course designed to give the chemical and biological aspects of water supply without laboratory work. Lectures, recitations, and seminary work. *Professor* HILL.

Two hours. First semester. Elective for Juniors and Seniors. Mon., Th., at 10.20.

15. Theory of Structures

Theory of statically determinate structures, as illustrated by the

\$ Courses 13, 30, and 32 cover the general subject of sanitation.

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plate girder and bridge and roof trusses. Assumptions necessary in the more common cases of statical indetermination. Elements of the elastic theory of structures and applications. Analytical and graphical methods. The object is to develop accuracy in the application of the principles of mechanics to the practical problems of structural design and to establish a correct idea of the interrelation of theoretical investigations and practical details. Lectures, recitations, computations. *Professor* CROSS and Mr. BOHL.

Five hours. First semester. Elective for students who have credit for Mechanics 2. Tu., Wed., Th., at 8; Tu., Wed., at 9.20.

19. Steel Design

Complete design and shop details of a through plate girder railway bridge or similar structure, accompanied by lectures and discussions. Individual data are given, business-like methods are required, and a practical attitude towards the work is encouraged. Lectures, computations, drafting. *Professor* CROSS and Mr. BOHL.

Three hours. One hour of recitation and four hours of drafting, or six hours of drafting. First semester. Elective for students who have credit for Mechanical Drawing 4, and have credit for or are taking 15. Tu., 11.20 to 1.20; 2.20 to 6.20.

20. Steel Design

Theory and practice of truss detailing. General and working drawings are prepared for a pin or riveted truss bridge for highway or railway traffic and for a timber or steel roof truss, the work being adapted to the needs of the class. Erection, shop practice, specifications, and other points not covered in 15 are discussed. Lectures, computations, drafting. *Professor* CROSS and Mr. BOHL.

Three hours. One hour of recitation and four hours of drafting, or six hours of drafting. Second semester. Elective for students who have credit for 15 and 19. Tu., 11.20 to 1.20; 2.20 to 6.20.

22. Masonry Design

Theory of dams, arches, retaining walls, and similar structures. Special attention given to the theory of reinforced concrete. Properties of concrete. Design of a dam, an arch, and of several reinforced concrete structures. Lectures, recitations, computations, drafting. *Professor* CROSS and Mr. BOHL.

Five hours. Two hours of recitation and six hours of drafting. Second semester. Elective for students who have credit for 15, and Mechanical Drawing 4. Mon. at 10.20; Th., 10.20 to 1.20; 2.20 to 6.20.

24. Foundations

Methods employed and results to be expected in foundation work. Special attention given to the more common cases. Lectures and recitations. *Professor* CROSS.

One hour. Second semester. Elective for students who have credit for Mechanics 2. Tu. at 10.20.

26. Contracts and Specifications

Law of contracts. Practical considerations in contracting. Preparation of specifications. Interpretation of contracts. Lectures and recitations. *Professor* CROSS.

One hour. Second semester. Required of all candidates for the degree of Bachelor of Science. *Th. at 9.20*.

28. Engineering Problems, Legal and Economic

The legal and some of the economic problems involved in engineering work. The object is to emphasize the importance of these considerations in the solution of technical problems and to interest the student in further investigation. Lectures and recitations. *Professor* CROSS.

One hour. Second semester. Elective for Juniors and Seniors. Wed. at 9.20.

30. Hydraulic Engineering ‡

Consideration of water supply mainly from an engineering standpoint. Irrigation, pumps and pumping machinery; construction of dams and reservoirs. Lectures, recitations, and seminary work. Supplements Mechanics 3, which gives the theoretical treatment of the subject. *Professor* HILL.

Two hours. Second semester. Elective for students who have credit for Mechanics 3. Mon., Wed., at 10.20.

32. Sanitary Engineering ‡

Theory of sewerage, treatment and disposal of sewage; stream pollution; house drainage and its appliances; garbage collection and disposal; design of sanitary works. Lectures, recitations, drafting, and seminary work. *Professor* H1LL.

Three hours. Second semester. Elective for students who have credit for Mechanics 3. Wed., Fri., at 9.20; Mon., 3.20 to 6.

\$ Courses 18, 30, and 32 cover the general subject of sanitation.

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34. Hydraulic Surveying (Applied Hydraulics)

Methods of surveying applicable to river and harbor work. Methods of measuring and rating the flow of streams. Actual measurement of the discharge of a stream by means of the current meter, weir, and floats. Recitations and field work. *Mr.* BOHL.

One hour. Three hours of recitation or eight hours of field work last third of second semester. Elective for students who have credit for 2 and Mechanics 3. Mon., Wed., Fri., at 11.20; or Tu., 9.20 to 5.20.

35, 36. Thesis

A thesis is required of all candidates for the degree of Bachelor of Science in Civil Engineering. The thesis must embody either a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

For Students who entered in 1914 or after

2, 1, ‡ 3, 5. Surveying

Theory and practice of plane surveying; use of tape, compass, level, and transit; adjustment of instruments; pen topography; contour drawing; conventional signs; plotting. *Professor* HILL, *Mr.* BOHL, and Assistants.

Three, two (two weeks of field work), two, and three hours. Second semester, summer vacation, first, and first semesters. Elective for students who have credit for Mathematics 17 and Mechanical Drawing 1. 2 and 1 may not be elected separately. Second semester, Mon., Wed., Th., at 2. First semester, Tu., Fri., at 2. First semester, Mon., Th., 2 to 5.

4. Surveying, Advanced Field Work

Use of stadia, plane table, and barometer; precise base-line measurement with steel tape; triangulation; topography. *Professors* HILL and CROSS, *Mr.* BOHL, and Assistants.

One hour. Spring recess. Elective for students who have credit for 1, 2, 3, and 5.

6, 7, 16. Railroad Engineering

Theory, location, construction, and economics of railroad engineering. Lectures, recitations, field work, and drafting. Second semester, railroad curves and practical problems. First semester, actual location of a line about two miles long, map, and estimate of cost. Second

Civil Engineering 1 is taken in September during the two weeks preceding the opening of college (September 6-18 inclusive for 1915-16).

semester, railroad track and track work; maintenance of way department; economics of location; earthwork and its cost; rock excavation; tunneling. *Professors* HILL and CROSS, Mr. BOHL.

Three, three (six hours of field work), and three hours. Second, first, and second semester. Courses 6 and 7 are elective for students who have credit for 5. Course 16 is elective for Juniors and Seniors. Second semester, *Mon.*, *Tu.*, *Th.*, *at 11.20.*

10. Geodesy

Problems in geodetic surveying, with sufficient theory for a proper understanding of the formulas used. Lectures, recitations, and computations. *Professor* HILL.

Two hours. One hour of recitation and two hours of computations. Second semester. Elective for students who have credit for 4, and Astronomy 5.

12. Highway Engineering

Economics and location of country roads; surveys, grades, drainage, and foundations; construction and maintenance; economics and design of pavements; dust prevention and preservation of macadam roads; use of bituminous materials in the construction and maintenance of roads; methods of testing road materials; roads and pavements in foreign countries; systems of administration and maintenance; highway laws. Lectures, recitations, inspection trips, and seminary work. *Mr.* BOHL.

Three hours. Second semester. Elective for Sophomores, Juniors, and Seniors. Mon., Tu., Fri., at 8.

14. Elements of Structures

Reactions, shears, moments, stresses in beams, simple trusses, and girders. The course aims to cover thoroughly the fundamental principles of simple structural design, and the essentials of routine structural work. Practice in reading and preparing structural drawings. *Professor* CROSS.

Three hours. Second semester. Elective for students who have credit for Mechanics 1.

[18. Surveying]

A condensation of 2, 1, 3, 5 designed to give electrical and mechanical engineering students the fundamental principles in regard to the use of the tape, transit, and level.

One hour. Second semester. Not elective. Not offered in 1915-16.

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26. Engineering Law and Practice

Contracts and contracting, business law and relations in general, riparian law, patents, cost systems, organization and management, and kindred topics. The course aims to outline the broader professional activities of the engineer and to indicate his relations to the public and to other professional men. Some of the lectures are optional for certain classes of students, and opportunity is afforded for specialization. *Professor* CRoss, and others.

One hour. Two hours of attendance. Second semester. Elective for Juniors and Seniors.

34. Hydraulic Surveying (Applied Hydraulics)

Methods of surveying applicable to river and harbor work. Methods of measuring and rating the flow of streams. Actual measurement of the discharge of a stream by means of the current meter, weir, and floats. Recitations and field work. Mr. BOHL.

One hour. Three hours of recitation or eight hours of field work last third of second semester. Elective for students who have credit for 5, and Mechanics 3.

36. Thesis

A thesis is required of all candidates for the degree of Bachelor of Science in Civil Engineering unless a substitute is allowed by the head of the department. The thesis must embody either a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

37, 38. Theory of Structures

Extends the work of 14; the essentials of design in steel, masonry, and timber; both substructure and superstructure are included. While the work is primarily theoretical, practice and its relations to theory are emphasized. In the second semester special attention is given to reinforced concrete. *Professor* CRoss.

Three hours. Through the year. Elective for students who have credit for 14.

40. Structural Design

Design of foundations, buildings, bridges, dams, arches, retaining walls, and similar structures. Preparation and study of strain sheets and working drawings. Individual problems are given and results are from time to time discussed by the class. *Professor* CROSS and *Mr.* BOHL.

Three hours. Six hours of drafting. Second semester. Elective for students who have credit for or are taking 38.

42. Advanced Structural Design

Supplements courses listed above by giving the student a knowledge of important literature, and of principles and methods not readily acquired in practice. Discussion of special problems in advanced branches of the science. *Professor* CRoss.

Three hours. Six hours of attendance. Second semester. Elective for students who have credit for or are taking 38 and 40.

43, 44. Construction in Steel and Concrete

Primarily for those who will become purchasers rather than designers of engineering structures. Principles and methods of design are explained and the whole process of construction outlined from foundation to completed structure, the functions of each worker from laborer to purchaser being indicated. Practice in reading and preparing structural drawings. *Professor* CROSS.

Three hours. Through the year. Elective for those who have credit for Mechanics 1.

45, 46. Water Supply and Sewerage

Water supply and sewerage from a sanitary and an engineering standpoint. The first semester is devoted mainly to the chemical, biological, and descriptive aspects of the subjects, and the second semester to engineering construction and design. *Professor* H1LL.

Four hours and three hours. Through the year. 45 is elective for Seniors. 46 is elective for students who have credit for Mechanics 3, and Civil Engineering 14.

VIII. ECONOMICS ‡

HENRY BRAYTON GARDNER, PH.D., Professor of Economics JAMES MARVIN MOTLEY, PH.D., Associate Professor of Economics ARTHUR LLOYD PHILBRICK, PH.B., Instructor in Economics

1. Elementary Economics

An outline and discussion of the fundamental principles of the subject. *Professors* GARDNER and MOTLEY.

[‡] The courses in this department other than 1 are open only to students who have credit for Economics 1, and Social Science 1, or Political Science 1.

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Three hours. First semester or second semester. Students must indicate on the registration card in which semester it is to be taken. Required in connection with Social Science 1, or Political Science 1, in Sophomore, Junior, or Senior year of candidates for the degree of Bachelor of Arts or Bachelor of Philosophy, and in Sophomore year of candidates for the degree of Bachelor of Science.[‡] First semester, *Tu., Fri., Sat., at 10.20.* Second semester, *Mon., Wed., Fri., at 12.20.*

5, 6. Money and Banking

Principles of money; recent monetary history, particularly of the United States; systems of the leading industrial nations; present problems. Principles of banking; recent banking history, particularly of the United States; systems of the leading industrial nations; present problems, with special reference to the problem of the reform of the banking system in the United States. *Professor* GARDNER. Three hours. Through the year. *Wed.*, Fri., Sat., at 11.20.

[7. Problems of Labor and Industry]

An analysis of the economic and social effects of modern methods of production; the rise of the trade union and the influence of collective bargaining; the organization of industry; scientific management, profit sharing, legal minimum wage, social insurance, and other modern movements to secure industrial efficiency and a more equitable distribution of wealth.

Three hours. First semester. Not offered in 1915-16.

8. Socialism and Allied Movements

Criticism of the present industrial order; brief review of the historically important socialistic schemes; an analysis and criticism of the leading socialistic theories with special reference to present-day proposals; communism, syndicalism, and land nationalization as agencies for economic reform. *Professor* MOTLEY.

Three hours. Second semester. Mon., Tu., Th., at 11.20.

9. Tariff, Reciprocity, and Shipping Subsidies

The development of the American system of protection and its effect upon domestic industry and international commerce; an analysis and criticism of arguments for protective tariff and for free trade; reci-

* See notes on this course, pages 59, 60, 62, 64.

procity agreements; policies of leading nations with regard to state aid to shipping. *Professor* MOTLEY. Three hours. First semester. *Mon.*, *Tu.*, *Th.*, *at 11.20*.

11, 12. Public Finance and Financial History

General principles of public finance; revenues and expenditures of leading industrial nations; public enterprises in their financial aspects; principal forms of taxation and their effects; public debts. Special attention will be given to the financial history of the United States from the adoption of the Constitution to the present day. *Professor* GARDNER.

Three hours. Through the year. Tu., Th., Sat., at 12.20.

13. Statistics

The principles of statistics as a method of recording and presenting social and economic facts; the possibilities and limitations of the statistical method; the interpretation of statistics; some of the important results of statistical investigation. Mr. PHILBRICK. Three hours. First semester. Tu., Th., Fri., at 2.20.

14. Accounting

The importance of accounting in economic life and the principles which underlie it; the accounting systems of public bodies and quasipublic corporations; the interpretation of financial statements. *Mr*. PHILERICK.

Three hours. Second semester. Tu., Th., Fri., at 2.20.

15. Trade and Transportation

The organization of international trade and the place of the United States in the commerce of the world; a description of the existing trade relations of the United States, of the conditions which control them, and the probable lines of their development, the organization and development of the internal trade of the United States with special reference to railway transportation and the problems to which it has given rise. *Professor* MOTLEY.

Three hours. First semester. Mon., Wed., Th., at 10.20.

16. Corporations and Corporation Finance

The corporation as a form of business organization; its formation and

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promotion; capitalization; forms of securities; the stock market; state and federal control and similar topics. *Professor* Motley. Three hours. Second semester. *Mon.*, *Wed.*, *Th.*, *at* 10.20.

21, 22. Investigation of Special Topics

Intended to afford a training in methods of gathering, handling, and presenting data in the study of economic life and problems. Each student is assigned a separate topic. *Professors* GARDNER and MOTLEY. Three hours. Six hours of attendance. Through the year. Either semester may be elected independently. Students intending to take either of these courses must secure the permission of the head of the department not later than December 1 or June 1 in the semester preceding that in which they desire to take the course. It is expected that as a rule these courses will be taken in connection with lecture courses. Hours to be arranged with the instructor.

23, 24. Economic Seminary

Study of important aspects of economic theory, history, and current problems of economic life. *Professors* GARDNER and MOTLEY.

Three hours. Two hours of attendance. Through the year. Elective for Seniors and Graduates who have taken advanced work in Economics. Hours to be arranged with the instructor.

IX. EDUCATION ‡

WALTER BALLOU JACOBS, A.M., Professor of Education STEPHEN SHELDON COLVIN, PH.D., Professor of Educational Psychology

2. Principles of Education

The meaning and scope of education; its function as a social institution; physical education—heredity and instinct, growth and development, adolescence, the function of play and athletics, fatigue; intellectual education—its aim, the origin and growth of mental

[‡]Courses 1 and 2 are general and cultural in character; interest in them is therefore not limited to those who intend to teach. At the same time they form an introduction to the more advanced courses in Education. Those who intend to teach are advised to elect these courses during the Junior year.

Courses 1-4 cover the usual requirements for certificates of the First Grade except where practice teaching or experience is demanded. In Rhode Island a certificate is required of all teachers in schools supported in whole or in part by public money. Certificates of the First Grade are granted without examination to those who have completed courses 1-4 and hold a college degree. Due credit is also given for separate courses.

Certificates, authorizing the holders to teach in the evening schools of the state, are issued without examination to students who have completed three years of regular work, including Education 1, 2.

For further explanation of the work of this department, see page 170.

activities, the acquisition, reproduction, elaboration of knowledge, the truth and fallacy of mental discipline, the choice of studies and their organization, the principles of method; education and behavior — habit formation, the development of character. The course is an introduction to the study of education. At the same time it will be of service to those who desire a brief survey of the principles and problems of education. *Professor* JACOBS.

Three hours. First semester. Elective for Juniors, Seniors, and Graduates, and by permission. Mon., Wed., Fri., at 12.20.

1. History of Education

Education among the early culture peoples; development of education in Greece and Rome; early Christian education; the Renaissance and humanism; the beginnings of modern education; the naturalistic movement, Rousseau; the psychological movement, Pestalozzi, Froebel, Herbart; the scientific movement, Spencer and Huxley; education in the United States; recent sociological tendencies; the movement for industrial education. The emphasis will be on the modern period. *Professor* JACOBS.

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates, and by permission. Mon., Wed., Fri., at 12.20.

3. Psychology of Education

A study of the general principles of learning and a discussion of habit formation, and of the various activities of mind involved in the process of education, — sensation and perception, imagination, association and memory, attention and interest, the higher mental processes. The course also discusses the problem of transfer in training; work and play; fatigue; economical methods of learning; tests of mental capabilities. *Professor* COLVIN.

Three hours. First semester. Elective for students who have credit for 2 and 1, or are taking 2, and for Graduates. Mon., Tu., Th., at 11.20.

4. Practical Introduction to Teaching

The elements of method and their application in practice teaching; observation of good teaching; management and discipline of classes; school law. *Professor* Colvin.

Three hours. Second semester. Elective for students who have credit for 1, 2, and 3, or for 2 and 3, and are taking 1. Mon., Tu., Th., at 11.20.

EDUCATION

5. Secondary Education; [‡] Organization and Function

The place of the high school and academy in the American system of education; comparison with secondary schools in Germany, France, and England; the administration of secondary education; its relation to the colleges and universities; meaning and value of the various secondary school studies, and their organization into a curriculum; high schools; the social life of the high school and academy; high school extension. *Professor* JACOBS.

Three hours. Two hours of attendance. First semester. Elective for Graduates and experienced teachers, and for approved Seniors. Wed., 3.20 to 5.20.

6. Secondary Education; # Methods and Processes

The principles of method as applied to teaching in secondary schools; the resources at the command of the teacher; the preparation of teachers. The following will receive special attention as typical secondary school studies: English, Modern Languages, and Latin; History, Science, and Mathematics; the Manual Arts. *Professor JACOBS*.

Three hours. Two hours of attendance. Second semester. Elective for Graduates and experienced teachers, and for approved Seniors. Wed., 3.20 to 5.20.

7, 8. Problems in Practical Teaching; Secondary Schools

Practice teaching in the high schools of Providence and of neighboring cities and towns. Observation, reports, and conferences. Designed for those who wish to become instructors in colleges, teachers or principals in secondary schools, or superintendents of schools. *Professor* COLVIN, assisted by the Supervising Teachers.

Three hours. Through the year. Elective for Graduates who have credit for elementary courses in Education and are taking 5, 6 and 15, 16. Sat. at 9.05, and at other hours to be arranged.

9, 10. Problems in Practical Teaching; Grammar Grades

Practice teaching in the Providence Grammar Schools. Observation, reports, and conferences. Designed especially for those who wish to become grade teachers, principals of grammar schools, or superintendents of schools, but also for those who wish to teach in secondary schools. The following studies receive special attention: Arith-

CHARLES EDWARD DENNIS, PH.D., Latin. JESSE MADISON GATHANY, A.M., History. RICHARD OWEN DUMMER, A.M., Physics and Chemistry.

^{*} In the courses in Secondary Education, Professor Jacobs will be assisted by the following :

metic, Language, History, and Geography. Professor COLVIN, assisted by the Supervising Teachers.

Three hours. Through the year. Elective for Graduates who have credit for elementary courses in Education and are taking 15, 16, and for approved Seniors. *Mon. at 3.20*, and at other hours to be arranged.

11, 12. Experimental Education

A laboratory course in educational psychology. The principal methods which have been used in measuring mental and physical capabilities will be reviewed and discussed. Under guidance the student will work through a number of the most important of these methods in the laboratory. He will also conduct a specific experiment in some phase of experimental education, report on his results from time to time, and finally set these forth in the form of a thesis. *Professor* Colvin.

Three hours. Through the year. Elective for Graduates and experienced teachers.

13, 14. Administration of Education

The course is descriptive of actual practice in school administration, but as far as possible the subjects are presented as problems to be solved. Particular attention will be given to school administration in Rhode Island. The following problems will be considered:

Control and Supervision: Boards of Education, The Superintendent of Schools; Types of Schools and Their Organization: Types of Grading; The Teaching Force: Training, Appointment, Promotion, Salaries, Pensions; The Pupil: Attendance, Promotion, Retardation, Elimination, the Course of Study; The Measurement of Educational Results: by Marks, by Comparisons, by Standards; The Cost of Education: Sources of Revenue, Apportionment of Funds. There will be an introduction to the interpretation of educational statistics and mental measurements. Professor JACOBS.

Three hours. Through the year. Two hours of attendance. Elective for Graduates, experienced teachers, principals, and superintendents, and for approved Seniors. Th., 4 to 6.

15, 16. Seminary in Education

Studies in current educational problems. The seminary will be conducted in two parts in successive hours. Part A. Reviews of the latest books upon education and related subjects, and studies of special problems assigned to individual students for investigation and

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experiment. Part B. A more intensive study of certain problems of current interest. For 1915–16 the subjects will be: First semester, The Principles of Method. Second semester, Recent Educational Theory. As subjects are not repeated, the course may be elected for successive years. *Professor JACOBS.*

Three hours. Through the year. Two hours of attendance. Required of studentteachers. Elective for Graduates and experienced teachers, and for approved Seniors. Sat., 10.20 to 12.20.

X. ENGLISH[‡]

WALTER COCHRANE BRONSON, † A.M., LITT.D., Professor of English

LINDSAY TODD DAMON, A.B., Professor of English

ALBERT KNIGHT POTTER, A.M., Professor of English

GEORGE WYLLYS BENEDICT, PH.D., Associate Professor of English

THOMAS CROSBY, A.M., Associate Professor of English and Public Speaking

HENRY BARRETT HUNTINGTON, A.B., Associate Professor of English

WILLIAM THOMSON HASTINGS, A.M., Assistant Professor of English

WALTER CLARKE PHILLIPS, A.M., Instructor in English

Roy FOLLETT, A.B., Instructor in English

BENJAMIN CROCKER CLOUGH, A.B., Instructor in English

MARION KENNETH FORWARD, PH.B., Assistant in English

RALPH LEON BLANCHARD, A.B., Assistant in English

SHARON OSBORN BROWN, A.B., Assistant in English

RAYMOND ABNER PRESTON, A.M., Assistant in English

1. Rhetoric and Composition

Designed primarily to teach clear and correct expression. Training in the fundamentals of prose composition. Lectures, recitations, and themes. *Professors* DAMON and HASTINGS, *Messrs*. PHILLIPS, FOLLETT, CLOUGH, FORWARD, BLANCHARD, and BROWN.

Three hours. First semester. Required of all Freshmen. 1st and 2d div., Mon., Tu., Th., at 11.20; 3d, 4th, and 5th div., Wed., Fri., Sat., at 11.20; 6th, 7th, and 8th div., Mon., Wed., Fri., at 12.20; 9th div., Mon., Tu., Th., at 1.20. Can-

[‡] Credit for English 1 or 2 is a prerequisite for admission to all other courses in the department except 48.

Courses 1-16 may not be counted in fulfilment of the requirement of a year in English Literature.

[†] On leave of absence during the academic year 1915-16.

didates for the degree of Bachelor of Science must register in divisions 6, 7, and 8.

1 R. Rhetoric and Composition

Prescribed in the second semester for students who have failed in English 1. Lectures, recitations, and themes. *Messrs*. CLOUGH and FORWARD.

Three hours. Second semester. Mon., Wed., Fri., at 12.20.

2. Rhetoric and Composition

A continuation of 1. Designed primarily to give training in the method, structure, and style of the chief forms of prose composition. Lectures, recitations, and themes. *Professors* DAMON and HAST-INGS, *Messrs*. PHILLIPS, FOLLETT, CLOUGH, FORWARD, BLANCHARD, and BROWN.

Three hours. Second semester. Required in the Freshman year of candidates for the degree of Bachelor of Science in Electrical Engineering or Mechanical Engineering, and in the Sophomore year of candidates for the degree of Bachelor of Arts, or Bachelor of Philosophy, or Bachelor of Science in Civil Engineering. Students electing 3, 4 may substitute 3 for 2. Students taking 7, 8 instead of Freshman mathematics may omit 2 in their Sophomore year and take 3 in their Junior year, if they obtained at least the grade of C in 1. 1st and 2d div., Mon., Tu., Th., at 11.20; 3d and 4th div., Wed., Fri., Sat., at 11.20; 5th div., Mon., Wed., Fri., at 12.20; 6th div., Mon., Tu., Th., at 1.20. Freshman candidates for the degree of Bachelor of Science in Electrical Engineering or Mechanical Engineering must register in sections 5 and 6.

48. English Literature from the Beginning to 1700

An outline course in the history of English literature to the end of the seventeenth century, with reading and study of the greater writers. *Professors* BENEDICT and HASTINGS, *Messrs*. FOLLETT, CLOUGH, and PRESTON.

Three hours. Second semester. Required in the Freshman year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. 1st and 4th div., Mon., Tu., Th., at 11.20; 2d div., Wed., Fri., Sat., at 11.20; 3d div., Mon., Wed., Fri., at 12.20.

49. English Literature from 1700 to 1900

An outline course in the history of English literature of the eighteenth and nineteenth centuries, with reading and study of the greater writers. *Professors* BENEDICT and HASTINGS, Messrs. FOLLETT and PRESTON.

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Three hours. First semester. Required in the Sophomore year of all candidates for the degree of Bachelor of Arts or Bachelor of Philosophy. 1st and 4th div., Mon., Tu., Th., at 11.20; 2d div., Wed., Fri., Sat., at 11.20; 3d div., Mon., Wed., Fri., at 12.20.

3, 4. English Composition, Second Course

Intended to supplement the training given in 1, 2, and to develop further the power of exact and lucid statement. Lectures, conferences, and prescribed reading; weekly themes, affording exercise in various plainer kinds of prose writing. *Professor* BENEDICT.

Three hours. Through the year. Elective for Sophomores and Juniors. Students electing 3, 4 may substitute 3 for 2. Mon., Wed., Th., at 10.20.

5, 6. English Composition, Advanced Course

Intended to develop ease of style and clarity and vigor of thought. Frequent practice in composition and criticism. Mr. FOLLETT.

Three hours. Through the year. Elective for Juniors and Seniors. With the consent of the instructor the course may be repeated. Mon., Wed., Th., at 10.20.

7, 8. Argumentative Composition

Intended to develop the power of handling argumentative topics cogently and persuasively. Lectures on the principles and forms of argumentative composition; frequent practice in brief-drawing and the writing of forensics and less formal arguments. *Professor* HUNTINGTON. Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors; required in the Sophomore year of candidates for the degree of Bachelor of Philosophy who did not elect to take mathematics in their Freshman year. See under English 2, p. 102. *Tu., Fri., Sat., at 10.20.*

10. Debate

Intended to train students in correct and vigorous oral presentation of ideas. Professor HUNTINGTON, with the coöperation of the Professors of Economics, Social and Political Science, History, and Public Speaking.

Three hours. Second semester. Elective for a limited number of Juniors and Seniors who have credit for 7. With the consent of the instructor the course may be repeated. Mon., 3.20 to 5.20; Fri., 2.20 to 4.20.

11, 12. Public Speaking

Principles of voice culture; vocal interpretation of literature; extempore speaking. *Professor* CROSBY.

Three hours. Through the year. Elective for Sophomores and Juniors. Mon., Tu., Th., at 11.20.

[13, 14. Public Speaking, Advanced Course]

Practice in reading lyric, narrative, and dramatic literature, in extempore speaking, and in the composition and delivery of the common forms of the occasional address. Special attention to securing right tone-production and to improvement in speech.

Three hours. Through the year. Elective for students who have attained at least the grade of B in 11, 12. Not offered in 1915–16.

15, 16. Old English

Essentials of Anglo-Saxon grammar; prose selections; Beowulf. Professor POTTER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Tu., Th., Fri., at 3.20.

17, 18. Chaucer

A study of the poems as literature, with sufficient attention to Middle English grammar to enable the student to read intelligently. Selections from Langland and Gower. *Professor* POTTER.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Tu., Th., Fri., at 4.20.

[21, 22. The Drama in England to 1642]

The drama as a literary type and its history in England to the closing of the theatres.

Three hours. Two hours of attendance. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1915–16.

23, 24. The Modern English Drama

The history of the English drama from 1660 to the present time. Reading and discussion of the work of the chief playwrights from Wycherley and Congreve to Jones, Pinero, and Shaw. *Professor* CROSBY.

Three hours. Through the year. Elective for students who have credit for a year's work in English Literature. Mon., Wed., Fri., at 12.20. Not to be offered in 1916-17.

25, 26. Shakspere

Careful study of a few plays, with special attention to exact inter-

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pretation. In 1915–16 the plays read will be Macbeth, The First Part of King Henry IV, Hamlet, The Winter's Tale, Antony and Cleopatra, Julius Cæsar. Professor HASTINGS.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Wed., Fri., Sat., at 11.20. Not to be offered in 1916-17.

27, 28. Shakspere

A brief survey of the drama before Shakspere. Shakspere as playwright and poet. Reading of all the plays; careful study of the great tragedies. Lectures, discussions, and reports on assigned topics. *Professor* POTTER.

Three hours. Through the year. Elective for students who have credit for a year's work in English Literature. *Tu.*, *Th.*, *Sat.*, *at 12.20*.

[29. English Literature, exclusive of the Drama, from 1558 to 1603] Elizabethan verse and prose in their relation to the great movements of the age, with special attention to Spenser and Bacon.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for students who have credit for a year's work in English Literature. Not offered in 1915–16.

[30. English Literature, exclusive of the Drama, from 1603 to 1660] Puritanism in literature; the Cavalier lyrists; the great prose writers; all the English poems and the more important prose works of Milton. Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for students who have credit for a year's work in English Literature. Not offered in 1915-16.

[31, 32. English Literature from 1660 to 1798]

The Restoration drama; the classical school; development of the essay and the novel; the beginnings of romanticism. Dryden, Wycherley, Congreve, Addison, Swift, Defoe, Richardson, Fielding, Pope, Gray, Collins, Smollett, Sterne, Johnson, Goldsmith, Burke, Burns. Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1915–16.

[33, 34. The English Novel]

The history of the English novel from 1700 to 1900; reading and discussion of the greater English novelists, including Defoe, Richardson, Fielding, and Smollett in the eighteenth century, and Scott,

Jane Austen, Dickens, Thackeray, Charlotte Brontë, George Eliot, Meredith, Hardy, and Stevenson in the nineteenth century.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1915–16.

35. English Literature from 1798 to 1832, Poetry

The reaction from classicism; the influence of the French Revolution; liberalism and individualism in English poetry; contemporary criticism. Wordsworth, Coleridge, Southey, Scott, Byron, Shelley, Keats, Landor. *Professor* HUNTINGTON.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for students who have credit for a year's work in English Literature. Mon., Th., Fri., at 9.20.

[36. English Literature from 1798 to 1832, Prose]

The development of the romantic novel; the rise of the reviews and quarterlies; essays and miscellaneous prose. Scott, Jane Austen, Coleridge, Jeffrey, De Quincey, Lamb, Hazlitt.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for students who have credit for a year's work in English Literature. Not offered in 1915-16.

37. English Literature from 1832 to 1892, Prose

Modifications of romanticism; realism; the influence of science and democracy; tendencies at the end of the century. Essays, history, miscellaneous prose, the novel. Macaulay, Carlyle, Ruskin, Arnold, Pater, Huxley, Dickens, Thackeray, Charlotte Brontë, George Eliot, Hardy. *Professor* DAMON.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. First semester. Elective for students who have credit for a year's work in English Literature. Mon., Tu., Th., at 2.20.

38. English Literature from 1832 to 1892, Poetry

Modifications of romanticism; Pre-Raphaelitism; the influence of science and democracy; tendencies at the end of the century. Tennyson, Browning, Arnold, Clough, Rossetti, Morris, Swinburne. *Professor* DAMON.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Second semester. Elective for students who have credit for a year's work in English Literature. Mon., Tu., Th., at 2.20.

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[39, 40. American Literature]

American literature from the beginning to 1900, in its relation to American life and to English literature. A rapid survey of the literature of the seventeenth and eighteenth centuries; reading and study of the writers of the nineteenth century, with special attention to Irving, Cooper, Bryant, Poe, Longfellow, Emerson, Hawthorne, Whittier, Holmes, Lowell, and Whitman.

Three hours. Two meetings a week, and a third meeting at the pleasure of the instructor. Through the year. Elective for students who have credit for a year's work in English Literature. Not offered in 1915–16.

[42. Contemporary English and American Literature]

A study of the tendencies of modern thought through the literature that reflects it. Reading and discussion of contemporary poets, novelists, and essayists.

Three hours. Second semester. Elective for students who have credit for a year's work in English Literature. Not offered in 1915-16.

43, 44. Seminary in English

Studies in English versification. The historical development of English rhythms and verse-forms. Laboratory experiments on the phonetics of verse. *Professors* POTTER and BENEDICT.

Three hours. Two hours of attendance. Through the year. Elective for Graduates, and for a limited number of Seniors who have attained at least the grade of C in two years' work in English Literature.

XI. GEOLOGY

CHARLES WILSON BROWN, A.M., Associate Professor of Geology ALFRED CARY HAWKINS, A.M., Instructor in Geology

1, 2. Introductory Geology

A study of the development of the earth, with special reference to the North American Continent, of the work of surface and interior dynamic agencies in the production of various topographic forms, of rock types and their changes and their recognition in the laboratory and field, including a discussion of earth origin, of crustal deformation and continent making, together with a survey of ancient life types and the principles of organic evolution they illustrate. First semester, physiographic and dynamic geology. Second semester, metamorphism, stratigraphy, and paleontology. May be continued in 13, or 8, or 9, 10, or 11, 12.

Three hours. Through the year. Elective for Undergraduates. Mon., Wed., Th., at 10.20.

3, 4. Introductory Geology

Similar to 1, 2, but with emphasis upon the discussion of geologic problems that may arise in engineering work. Special attention in map and field study to topographic features resulting from the various geologic agencies, and to the study of hand specimens of minerals, ores, and rock types and their uses. May be continued in 9, 10, or 13, or 8.

Two hours. Four hours of attendance. Through the year. Required in the Junior year of candidates for the degree of Bachelor of Science in Civil Engineering. Not elective. First semester, Mon. at 10.20; Fri. at 9.20. Second semester, Mon., Wed., at 10.20.

[5, 6. The General Geography of the Eastern Hemisphere]

A discussion of the physiographic controls that influence the development of transportation and commerce; agriculture, forests, water power, and water supply, such as valleys and rivers, mountains, plains, and other large land features. A study of the laws of meteorology, and the relation of climate to soil products and to man and his development; the location and proper development of cities; and the geographic distribution of ore deposits and other natural resources and their conservation. May be continued in 11, 12.

Three hours. Through the year. Elective for Undergraduates except Freshmen and Sophomores who are taking another course in the department. Not offered in 1915–16.

[7, 14. Economic Geology]

A discussion of the origin, occurrence, distribution, and production of building and structural materials; of the non-metalliferous and metalliferous ore deposits.

Three hours. Through the year. 7 is elective for Undergraduates who have credit for 1 or 3; 14 for those who have credit for 1 or 3, and 9. Hours to be arranged with the instructor. Not offered in 1915-16.

9, 10. Mineralogy and Petrography

An introductory course in the macroscopic and microscopic study of minerals, ores, and rocks. First semester, discussion of crystal forms

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and the laws of crystallography, determination by physical properties and blow-pipe analysis of the more common minerals and ores. Second semester, study of the optical properties of the rock-forming minerals, rocks, and ores, under the polarizing microscope; determination of rock types; discussion of the fundamental principles of the origin and classification of rocks. May be continued in 11, 12.

Three hours. Six hours of attendance. Through the year. Elective for Sophomores, Juniors, and Seniors. Tu., Th., at 11.20.

11, 12. Research in Geology and Geography

Advanced work in the library, laboratory, or field, in the various phases of geology or geography. The region in which the University is situated provides unusual opportunities in a small compass for the study of both simple and complex problems in field research in physiographic, metamorphic, petrographic, mineralogic, paleontologic, and stratigraphic geology. Arranged to meet the requirements of individual students.

One to six hours. Through the year. Elective for Graduates and approved Undergraduates. Either semester may be elected independently.

13. Problems in Dynamic and Stratigraphical Geology

Detailed study of the problems connected with the dynamic geology and stratigraphy of North America, and especially of the Narragansett Bay region.

Three hours. Two hours of attendance. First semester. Elective for Juniors, Seniors, and Graduates who have credit for Geology 1, 3, or their equivalents.

8. Structural and Field Geology

An introductory course in field geology. Study of areal and structural geology in igneous and sedimentary areas from geologic reports. Practice in the construction of geologic maps and work in the field areas.

Three hours. Second semester. One conference hour to be arranged, and five hours' work in the laboratory or field. Elective for Undergraduates who have credit for 1, 3.

[15. Topographic Geology]

Includes the recognition and surveying of typical land features and the construction in the laboratory of a model of an assigned topographic form.

Three hours. Six hours of attendance. First semester. Not offered in 1915-16.

16. The Geography of the Western United States

A study of the great physiographic provinces of the west, their topographic features, origin, and control of man's activities. The course will include a discussion of the National Parks, the prairies, the high plains, the plateaus and mountain systems of the far west, and their utilization.

Three hours. Second semester. Elective for Undergraduates who have credit for Geology 1, 3, or 5, or an equivalent course in geology or geography, except Freshmen and Sophomores who are taking another course in the department. Tu., Th., at 2.20.

XII. GERMANIC LANGUAGES AND LITERATURES[†]

- CAMILLO VON KLENZE, PH.D., Professor of the Germanic Languages and Literatures
- ASA CLINTON CROWELL, PH.D., Associate Professor of the Germanic Languages and Literatures
- ROBERT MCBURNEY MITCHELL, PH.D., Assistant Professor of the Germanic Languages and Literatures
- ALBERT EDWARD RAND, PH.D., Assistant Professor of the Germanic Languages and Literatures

BERNARD KEENAN, A.M., Instructor in German

1, 2. Elementary Course, First Year

Reading, grammar, composition, conversation, dictation, sight reading. *Professor* MITCHELL and Mr. KEENAN.

Three hours. Through the year. Elective for students who did not present German for admission. 1st div., Mon., Th., Fri., at 9.20; 2d div., Tu., Wed., Sat., at 9.20.

3, 4. Elementary Course, Second Year

Reading of fairly difficult modern German stories, lyrics (von Klenze or Hatfield), and two dramas illustrating respectively the classical and the modern period, for example, Schiller's *Maria Stuart* and Hebbel's *Agnes Bernauer*. Review of grammar; composition; conversation based upon the texts read. *Professor* CROWELL.

[‡] Students wishing recommendations from the department to teach German must pass a special examination designed to test their ability to write and to understand German, and, to some extent, to use the spoken language.

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Three hours. Through the year. Elective for students who have credit for 1, 2, or who presented elementary German (1 year) for admission. Tu., Wed., Sat., at 9.20.

5, 6. Intermediate Course

Reading of fairly difficult modern German stories, lyrics (von Klenze or Hatfield), and one or two dramas of the classical period. Review of grammar; composition; conversation based upon the texts read. *Professors* CROWELL, MITCHELL, and RAND.

Three hours. Through the year. Elective for students who have credit for 3, 4, or who presented elementary German (2 years) for admission. 1st div., Tu., Wed., Sat., at 9.20; 2d div., Mon., Wed., Th., at 10.20; 3d div., Tu., Fri., Sat., at 10.20; 4th div., Wed., Fri., Sat., at 11.20.

7, 8. Advanced Course in Standard Authors, Classical and Modern One drama of Goethe or Schiller, one drama of Grillparzer, one drama of Hebbel, von Klenze's Deutsche Gedichte, a modern novel like Sudermann's Frau Sorge. Talks in German on the history of German literature; oral and written reports in German. Professor RAND and Mr. KEENAN.

Three hours. Through the year. Elective for students who have credit for 5, 6, or who have passed 3, 4, with grade B; or who presented intermediate German for admission. 1st div., Tu., Th., Sat., at 8; 2d div., Mon., Wed., Th., at 10.20; 3d div., Mon., Tu., Th., at 11.20.

9, 10. Modern Prose

Aims to train the student in reading, speaking, writing, and understanding modern German. Reading of texts selected from history and science; for example, Freytag, Helmholtz, Nichols's Modern German Prose, Paszkowski's Lesebuch zur Einführung in die Kenntnis Deutschlands und seines geistigen Lebens, 6th ed., and a text (such as Mosher's Willkommen in Deutschland) to introduce the student to the actual language of modern daily life. Talks in German; oral and written reports in German; letter-writing, composition, and conversation. Professors von KLENZE and MITCHELL.

Three hours. Through the year. Elective for students who have credit for 5, 6, or 7, 8, or who have passed 3, 4, with grade A; or who presented intermediate German for admission. 1st and 2d div., Tu., Fri., Sat., at 10.20.

[11, 12. German Lyrical Poetry]

Introduces the student to the various aspects of the life of the Ger-

man people as reflected in the lyrical poetry of the last two centuries. Lectures in German; oral and written reports in German.

Three hours. Through the year. Elective for students who have credit for 5, 6, or 7, 8, or 9, 10. Not offered in 1915–16.

13, 14. The German Short Story

The development of the short story into an art form. The study of the "Novelle" as represented by Kleist, Ludwig, Heyse, Storm, C. F. Meyer, Keller, and others, with frequent reference to the chief writers of the short story in France, England, and America. Lectures and reports in German and English. *Professor* MITCHELL.

Three hours. Through the year. Elective for students who have credit for 5, 6, or 7, 8, or 9, 10. Tu., Wed., Sat., at 9.20.

[15, 16. The German Drama of the Nineteenth Century]

Kleist, Grillparzer, Hebbel, Hauptmann, and Sudermann. A study of the development of the German drama from waning romanticism to realism, with frequent reference to the chief representatives of the modern drama in other countries.

Three hours. Through the year. Elective for students who have credit for 5, 6, or 7, 8, or 9, 10. Not offered in 1915–16.

17, 18. The Drama of Lessing and Schiller

Aims to introduce the student to the dramatic theory and practice of German classicism. Reading of representative dramas. Lessing viewed as a reformer. The sources of the dramas and parallel productions in other literatures. The development of the domestic tragedy. Talks in German; reports in German and English. *Professor* CROWELL.

Three hours. Through the year. Elective for students who have credit for 5, 6, and for others by permission. Mon., Th., Fri., at 9.20.

[21, 22. Goethe's Faust: Parts 1 and 2]

Interpretation of the text; study of the Faust legend and of other English and German dramas which present the Faust problem. Lectures and reports.

Three hours. Through the year. Elective for Juniors and Seniors who have credit for 5, 6, and for others by permission. Not offered in 1915-16.

[23, 24. Goethe: A Study of His Life and Works]

Lectures in German; reports on assigned topics; extensive reading.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1915–16.

[25, 26. Outline History of German Literature]

Aims to acquaint the student with the most important movements in the evolution of German literary life. Lectures in German; reports on assigned topics; extensive reading.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Not offered in 1915-16.

27, 28. German Literature in the Nineteenth Century

A study of the literary life of Germany as an expression of German civilization in the nineteenth century. The literary output—Romantic School, Young Germany, Naturalism, Realism, Neo-Romanticism —will be studied, with frequent references to prominent personalities in other domains of intellectual life, such as David Friedrich Strauss, Mommsen, Nietzsche, Wagner. Lectures in German; reports on assigned topics; extensive reading. *Professor* von KLENZE.

Three hours. Through the year. Elective for students who have credit for 7, 8, or 9, 10. Tu., Th., Sat., at 12.20.

[31. Gothic]

The Gothic language, with reading of extracts in Streitberg's Gotisches Elementarbuch or Braune's Gotische Grammatik.

Three hours. First semester. Elective for Graduates and approved Undergraduates. Not offered in 1915-16.

[32. Old High German]

Grammar and reading of selections in prose and verse. Some knowledge of Gothic expected. Braune's Althochdeutsche Grammatik and Braune's Althochdeutsches Lesebuch.

Three hours. Second semester. Elective for Graduates and approved Undergraduates. Not offered in 1915-16.

33, 34. Old Norse and Germanic Mythology

Grammar and reading of selections. Holthausen's Altisländisches Elementarbuch; Wilken's Prosaische Edda; Hildebrand's Aeltere Edda. Primitive Germanic religion, customs, and ideas in their relations to German literature. Discussions based on E. Mogk's Germanische Mythologie. Reading of illustrative material. Professor CROWELL.

Three hours. Through the year. Elective for Graduates and approved Undergraduates. Mon., Tu., Th., at 2.20.

35, 36. Middle High German

The language of the Middle High German period, including an introduction to Germanic philology. Michels' Mittelhochdeutsches Elementarbuch; Das Nibelungenlied, Minnesangs Frühling, Walter von der Vogelweide. Lectures in German. Outside reading. Professor von KLENZE.

Three hours. Through the year. Elective for Graduates and approved Undergraduates. Wed., Fri., Sat., at 11.20.

41, 42. Seminary in German Literature

Aims to give training in modern methods of investigation and criticism. To be conducted in German. *Professor* von KLENZE. Three hours. Through the year. Elective for Graduates.

XIII. GREEK LITERATURE AND HISTORY

FRANCIS GREENLEAF ALLINSON, PH.D., Professor of Greek Literature and History

KENDALL KERFOOT SMITH, PH.D., Assistant Professor of Greek Literature and History

A, B. Elementary Course

Designed to cover as much as possible of the entrance requirements, and thus enables a student to take 1 in the following year if he completes by private study before the opening of the first semester the requirement in Homer, and before the opening of the second semester the requirement in the *Anabasis*. *Professor* SMITH.

Three hours. Through the year. Elective for students who did not present elementary and advanced Greek for admission. Mon., Wed., Fri., at 12.20.

1. Homer

Six books of the Odyssey, with a general survey of the entire poem. Selections from the Lyric Poets, Historians, and Philosophers to illustrate the influence of Homer on later thought. Professor SMITH. Three hours. First semester. Elective for students who presented elementary and advanced Greek for admission, or who have credit for A, B and have done the additional work indicated above. Tu., Th., Sat., at 12.20.

2. Plato and Lysias

Plato: Apology and Crito, with selections from the Phaedo, and collateral readings from Xenophon's Memorabilia and the Clouds of Aristophanes. Lysias: Orations VII, XXII, XXIII, XXIV. Professor Allinson.

Three hours. Second semester. Elective for students who have credit for 1. Tu., Th., Sat., at 12.20.

3. Lucian and the Dramatic Poets

Selections from Lucian. Lectures on the Greek drama. The Oedipus Tyrannus of Sophocles and collateral reading in the Prometheus of Aeschylus. Professor Allinson.

Three hours. First semester. Elective for Sophomores. Mon., Wed., Th., at 10.20.

4. The Historians

The eighth book of Herodotus, with collateral reading of the *Persians* of Aeschylus and Plutarch's *Themistocles*. The first book of Thucydides, with collateral reading of Plutarch's *Pericles*. *Professor* SMITH. Three hours. Second semester. Elective for Sophomores. *Mon.*, *Wed.*, *Th.*, at $10.\overline{2}0$.

5. The Drama

Aeschylus: Seven against Thebes. Euripides: Medea. Aristophanes: Frogs. Menander: The Arbitrants and The Girl from Samos. Collateral reading of Aristotle: Poetics. Professor Allinson.

Three hours. First semester. Elective for Juniors and Seniors. Tu., Wed., Sat., at 9.20.

6. Literature of Athenian Imperialism

Thucydides: Selections. Aristophanes: Birds. Collateral reading of Aristophanes: Acharnians. Isocrates: On Peace. Andocides: On Peace mith Sparta. Designed to give the Athenian treatment of problems of peace, war, and empire. Professor SMITH.

Three hours. Second semester. Elective for Juniors and Seniors. Tu., Wed., Sat., at 9.20.

[7. Epic Poetry]

The *Iliad*, xVIII-XXIV, with a general study of the poem as a whole. Hesiod: selections from the *Theogony* and the *Works and Days*. Selected Homeric Hymns.

Three hours. First semester. Elective for Juniors and Seniors. Not offered in 1915–16.

[8. Plato and Aeschylus]

Plato: selections from the *Republic*, 1-x. Aeschylus: the *Agamemnon*, with collateral reading of the rest of the *Oresteia*.

Three hours. Second semester. Elective for Juniors and Seniors. Not offered in 1915-16.

9. Demosthenes

Demosthenes: On the Crown; selections from Private Orations. Offered as a supplementary course to students electing also Greek 5 and 6. Professor Allinson.

One hour. Second semester.

12. Greek Composition

Professor Allinson.

One hour. Second semester. Elective for Sophomores, Juniors, and Seniors.

[13, 14. Modern Greek]

Introduction to the language; readings from living Greek authors and Greek newspapers. Designed for students intending to continue their preparation in Greek at the American "School of Classical Studies" in Athens.

One hour. Through the year. Elective for Sophomores, Juniors, and Seniors. Not offered in 1915-16.

15. Greek Civilization

The life of the Greeks from Homer to the second century after Christ, with special study of the political, social, and religious institutions of the classical period as illustrated by the literature, history, and monuments of art. Must be followed in the second semester by Latin 16, Roman Civilization. The two semesters together constitute the course in Classical Civilization. *Professors* ALLINSON and SMITH.

Three hours. First semester. Required in the Freshman or Sophomore year of all candidates for the degree of Bachelor of Philosophy. Not elective. 1st div., Mon., Th., Fri., at 9.20; 2d div., Mon., Tu., Th., at 11.20. For 1915-16 a third division in Classical Civilization will take Latin 16 in the first semester and Greek 15 in the second semester. Tu., Fri., Sat., at 10.20.

[16. The Natural History of Language]

Outline of the history of Language; the Indo-European family. Adapted for students of ancient or modern languages.

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Three hours. Second semester. Elective for Undergraduates. Not offered in 1915-16.

17, 18. Greek Seminary

First semester, Menander and the Comic Fragments, or Comparative Philology. *Professor* Allinson. Second semester, Greek Inscriptions. Introduction to the Epigraphical sources for Greek History. *Professor* SMITH.

Three hours. Two hours of attendance. Through the year. Elective for Graduates and approved Seniors.

XIV. HISTORY ‡

WILLIAM MACDONALD, PH.D., LL.D., George L. Littlefield Professor of American History

THEODORE FRELINGHUYSEN COLLIER, PH.D., Associate Professor of European History

1, 2. Medieval and Modern History of Europe

A general survey of the history of western Europe from the time of the barbarian invasions to the present. A narrative text-book supplemented by lectures, frequent written tests, written reports and abstracts on assigned reading, and topics for special investigation. *Professor* MACDONALD.

Three hours. Through the year. Required of candidates for the degree of Bachelor of Arts in the Sophomore or Junior year, and of candidates for the degree of Bachelor of Philosophy in the Freshman, Sophomore, or Junior year. Mon., Tu., Th., at 2.20.

[3. History of Christianity : Early and Medieval Period]

A study of organized Christianity, its origins, establishment, expansion, and the development of its institutions and doctrines, from the Apostolic Age to the eve of the Reformation. Lectures and parallel reading, with frequent assignments in the sources.

Three hours. First semester. Elective for Juniors, Seniors, and Graduates. With 4 constitutes a continuous year course in Church history, but each course may be elected independently. Not offered in 1915–16.

[‡] The elective courses in History are regularly open only to students who have credit for 1, 2, but by special permission of the instructor certain elective courses may be taken by students who are at the same time taking 1, 2.

[4. History of Christianity: From the Reformation to the Present] The Reformation; counter-reformation, reaction, and religious conflict; Puritanism and non-conformity; pietism and evangelicalism; Methodism; missions and expansion; main currents of organized Christianity in the nineteenth century. Method as in 3.

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. A continuation of 3, but may be elected independently. Not offered in 1915-16.

5. The French Revolution and the Napoleonic Era

A survey of the eighteenth century, with particular reference to the causes of the French Revolution, followed by a detailed study of the Revolution, its principles and development, and the rise and overthrow of Napoleon. *Professor* COLLIER.

Three hours. First semester. Elective for Juniors, Seniors, and Graduates. With 6 constitutes a continuous year course in modern European history, but each course may be elected independently. *Tu.*, *Fri.*, *Sat.*, *at 10.20*.

6. Europe since 1815

The reconstruction of Europe after Napoleon; reaction and revolution; political reorganization, and the formation of the present states of Europe; colonial expansion and world-politics; social development. *Professor* COLLIER.

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. A continuation of 5, by which it should preferably be preceded. Tu., Fri., Sat., at 10.20.

7. English History to 1603

A general course in the history of England from the Roman occupation to the close of the reign of Elizabeth. Lectures, parallel reading, frequent tests, and regular assignments in the sources, with written or oral reports. *Professor* Coller.

Three hours. First scmester. Elective for Juniors, Seniors, and Graduates, and for Sophomores who have credit for 1, 2. Mon., Tu., Th., at 2.20.

8. English History, 1603 to the Present

A study of the eighteenth and nineteenth centuries with particular attention to social and economic development; the diplomatic relations of England with the Continental powers will, for the most part, be taken up in 6. A continuation of 7, following the same method. *Professor* COLLIEN.

Three hours. Second semester. Elective for Sophomores, Juniors, Seniors, and

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Graduates who have credit for 7, and for others by special permission. Mon., Tu., Th., at 2.20.

11, 12. Seminary in European History

Intensive study of a limited period or of a special phase of social or political development, with a view to training in historical method and the use of the sources. Subject for 1915–16: British foreign policy in the nineteenth century. *Professor* COLLIER.

Three hours. Two hours of attendance. Through the year. Elective for Graduates and approved Juniors and Seniors.

[13, 14. American History]

A general course, covering the whole period from the beginnings of English colonization to the present time. Intended as an introduction to the advanced courses in American history and for students who wish only a general survey of the subject.

Three hours. Through the year. Elective for Sophomores, Juniors, Seniors, and Graduates. Either semester may be elected independently, but 14 should preferably be preceded by 13. Not offered in 1915–16.

[15, 16. Constitutional and Political History of the United States] An advanced course covering the period from 1783 to the present time. Intended primarily for students who wish to specialize in American history or who expect to study law.

Three hours. Two hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates. Not offered in 1915-16.

17, 18. Seminary in American History

Designed to afford training in historical investigation and practice in the use of sources. The subjects vary from year to year, and are drawn from both the colonial and the constitutional periods. For 1915–16 the subjects are: First semester, The work of the Continental Congress. Second semester, Political parties since the Civil War. *Professor* MACDONALD.

Three hours. One to two hours of attendance. Through the year. Elective for Graduates and approved Seniors. Should be preceded by 13, 14, or 15, 16, or 19, 20, or 21, 22, but in exceptional cases may be taken by students who at the same time are taking 19, 20, or 21, 22.

19, 20. American History to 1787

A general course covering the colonial and revolutionary periods, and

including a survey of French and Spanish as well as of English colonization. *Professor* MACDONALD.

Three hours. Two hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates, and for Sophomores who have credit for 1, 2. Mon., Wed., at 12.20.

21, 22. The United States under the Constitution

A general course covering the period from 1787 to the present time, with special reference to political and constitutional development. *Professor* MACDONALD.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates, and for Sophomores who have credit for 1, 2. Wed., Fri., Sat., at 11.20.

XV. MATHEMATICS[‡]

- ROLAND GEORGE DWIGHT RICHARDSON, PH.D., Professor of Pure Mathematics
- HENRY PARKER MANNING, PH.D., Associate Professor of Pure Mathematics
- RAYMOND CLARE ARCHIBALD, PH.D., Assistant Professor of Pure Mathematics

PERRY BLAINE PERKINS, PH.D., Assistant Professor of Applied Physics CLINTON HARVEY CURRIER, A.M., Instructor in Mathematics

Charles Connien, M.M., Instructor in Mathematics

THEODORE HENRY BROWN, PH.D., Instructor in Mathematics

ARTHUR KIERNAN, PH.B., Assistant in Mathematics

2. Plane Trigonometry

Professors Archibald and Perkins, Mr. Currier, Dr. Brown, Mr. KIERNAN.

Three hours. First semester. Elective for Undergraduates who did not present

It is recommended that students who contemplate teaching in the secondary schools elect courses 1, 2, 3, 5, 6, 7, 8, 41, 42, 43, 44.

Courses 21-40 are designed primarily for Graduates. Two or three of these courses are offered each year according to the needs of students. For those who have taken all of them, other courses can usually be arranged.

Unless elected by five students, courses 21-40 may not be given.

[‡] Students wishing to specialize in Mathematics should take the undergraduate courses in the order 2, 3, 5, 6, 7, 8, 9. Courses 1, 16, together with as many of courses 11, 12, 21-44, as possible, should be taken as opportunity offers in connection with the other courses. Freshmen intending to specialize in Mathematics should consult some member of the department before registering, and should, if possible, take two courses in the first year.

Courses 15, 16, 17, 18, 19, 20, 9, are primarily for candidates for the degree of Bachelor of Science, but may be elected by others.

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Plane Trigonometry for admission. One division, Mon., Wed., Fri., at 8; one division, Mon., Th, Fri., at 9.20; four divisions, Tu., Wed., Sat., at 9.20. The honor division is in the last group.

Three hours. Second semester. Required of those students entering at midyear who did not present Plane Trigonometry for admission. Elective for other Undergraduates. *Tu.*, *Wed.*, *Sat.*, *at 9.20*.

1. Solid and Spherical Geometry

Professor Archibald, Dr. BROWN, Mr. KIERNAN.

Three hours. Second semester. Elective for Undergraduates who did not present Solid Geometry for admission. One division, Mon., Wed., Fri., at 8; one division, Mon., Th., Fri., at 9.20; one division, Tu., Wed., Sat., at 9.20.

3. Algebra

Professors ARCHIBALD and PERKINS, Mr. KIERNAN.

Three hours. Second semester. Elective for Undergraduates who did not present Advanced Algebra for admission. One division, Mon., Th., Fri., at 9.20; two divisions, Tu., Wed., Sat., at 9.20.

5. Plane Analytic Geometry

Professor RICHARDSON, Mr. CURRIER.

Three hours. First semester. Elective for students who have credit for Plane Trigonometry. Two divisions, Mon., Th., Fri., at 9.20.

6. Analytic Geometry and Differential Calculus

Professor RICHARDSON, Mr. CURRIER.

Three hours. Second semester. Elective for students who have credit for 5. Two divisions, Mon., Th., Fri., at 9.20.

7, 8. Differential and Integral Calculus

A continuation of 6. Professor ARCHIBALD.

Three hours. Through the year. Elective for students who have credit for 6. Tu., Th., Sat., at 12.20.

9. Differential Equations

Professor MANNING.

Two hours. First semester. Required of candidates for the degree of Bachelor of Science in Electrical Engineering. Elective for students who have credit for 8 or 20. *Tu.*, *Th.*, *at 12.20*.

11. Analytic Geometry of Three Dimensions

An introductory course based on C. Smith's Solid Geometry. Professor ARCHIBALD.

Three hours. First semester. Elective for students who have credit for 7, 8, and for others by special permission. Tu., Th., Fri., at 3.20.

12. Modern Analytic Geometry

Topics in Plane Analytic Geometry with special reference to tangential coördinates. *Professor* ARCHIBALD.

Three hours. Second semester. Elective for students who have credit for 7, 8, and for others by special permission.

13. Algebra

Professors MANNING and PERKINS.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for others who did not present Advanced Algebra for admission. One division, Wed., Fri., Sat., at 11.20; one division, Mon., Tu., Th., at 11.20.

16. Spherical Trigonometry

Dr. BROWN and Mr. CURRIER.

One hour. Second semester. Required of candidates for the degree of Bachelor of Science, and of those students entering at mid-year who have credit for Plane Trigonometry. Elective for students who have credit for Plane Trigonometry. One division, Th. at 11.20; one division, Sat. at 11.20.

17. Plane Trigonometry

Professor ARCHIBALD, Dr. BROWN.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for others who did not present Plane Trigonometry for admission. One division, Mon., Tu., Th., at 11.20; one division, Wed., Fri., Sat., at 11.20.

18. Analytic Geometry

Professor MANNING, Dr. BROWN.

Five hours. Second semester. Required of candidates for the degree of Bachelor of Science, and of those students entering at mid-year who have credit for Plane Trigonometry. Elective for others who have credit for Plane Trigonometry. One division, Mon., Tu., Wed., Th., Fri., at 11.20; one division, Mon., Tu., Wed., Fri., Sat., at 11.20.

19, 20. Differential and Integral Calculus

Professor RICHARDSON, Mr. KIERNAN.

Four hours. Through the year. Required of candidates for the degree of Bache-

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lor of Science. Elective for others who have credit for 5 or 18. One division, Tu., Wed., Sat., at 9.20; Th. at 8; one division, Tu., Fri., Sat., at 10.20; Wed. at 8.

21, 22. Function Theory of a Complex Variable

Professor MANNING.

Three hours. Through the year. Elective for Graduates and approved Juniors and Seniors. Mon., Th., Fri., at 4.20.

[23, 24. Differential Equations, Advanced Course]

Three hours. Through the year. Elective for students who have credit for 21, 22. Not offered in 1915–16.

[25, 26. Advanced Algebra]

Among the subjects discussed are the following: linear dependence; systems of linear equations; linear transformations; algebraic invariants; bilinear and quadratic forms.

Three hours. Through the year. Elective for those having credit for 3, 41, 42, and for others by special permission. Not offered in 1915–16. To be offered in 1916–17.

[27, 28. Projective Geometry]

Introductory course with synthetic and analytic treatment of projective forms of one, two, and three dimensions. Some of the main topics are duality, involution, trilinear and tetrahedral coördinates, sphero-conics, skew cubic and quartic curves.

Three hours. Through the year. Elective for Graduates and approved Undergraduates. Not offered in 1915-16. To be offered in 1917-18.

29, 30. Function Theory of a Real Variable

The foundations of the differential calculus; definite integrals; line integrals; multiple integrals. *Professor* RICHARDSON.

Three hours. Through the year. Elective for students who have credit for the Calculus, and who have credit for or are taking 41, 42. Mon., Wed., Fri., at 8.

[31, 32. Applications of Calculus to Geometry]

Introductory course in the differential geometry of plane and space curves, curved, ruled, and developable surfaces, families and nets of curves on surfaces, triply orthogonal systems of surfaces, and conformal representation of one surface upon another. The historical development of the subject is also presented, and Gauss's memoir on "General Investigations of Curved Surfaces" is read. Three hours. Through the year. Elective for students who have credit for 8 or 20. Not offered in 1915-16. To be offered in 1916-17.

[39, 40. Course in Advanced Topics]

Among the topics for discussion are: quadratic forms with a finite number and with infinite many variables; elementary divisors; linear equations in an infinite number of unknowns; integral equations; boundary value problems in ordinary differential equations.

Amount of credit to be arranged. Elective for Undergraduates and Graduates who have adequate preparation. Not offered in 1915-16.

41, 42. Fundamental Problems of Algebra

An introduction to some of the concepts of modern analysis; designed for students who expect to teach as well as for those who are preparing for advanced work in Mathematics. Among the topics to be treated are: the number system; limits; infinite series; the fundamental operations; determinants. *Professor* MANNING.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Tu., Th., Sat., at 8.

[43, 44. Foundations, Methods, and Problems of Geometry]

Designed for those who expect to teach Mathematics. The main topics of the course will be: foundations; Euclid and his modern rivals; American, French, German, and Italian texts; methods for attacking Euclidean problems; geometrography; famous problems and transcendence of π ; history.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Not offered in 1915-16. To be offered in 1916-17.

MECHANICAL ENGINEERING

XVI. MECHANICAL ENGINEERING[‡]

WILLIAM HERBERT KENERSON, M.E., A.M., Professor of Mechanical Engineering

JAMES ALEXANDER HALL, A.B., Sc.B., Assistant Professor in Mechanical Engineering

FRANK CARLETON BLAKE, Sc.B., Instructor in Mechanical Engineering HENRY DEWEES CADY, Instructor in Shop Practice

1. Wood-work

Exercises in carpentry and wood-turning. Assigned reading and written reports. Mr. CADY.

Two hours. Five hours of attendance. First semester, Tu., 2 to 5; Fri., 2 to 4.

2. Wood-work

Exercises in pattern-making. Assigned reading and written reports. Mr. CADY.

Two hours. Five hours of attendance. Second semester, Mon., Th., 2 to 4; Wed. at 11.20.

3, 4. Metal-work

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Assigned reading and written reports. Mr. CADY.

Two hours. Five hours of attendance. Through the year. First semester, Mon. at 10.20; Tu., Fri., 2 to 4. Second semester, Mon., 2 to 4; Fri., 2 to 5.

5. Metal-work

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Assigned reading and written reports. Mr. CADY.

Three hours. Seven hours of attendance. First semester, .Tu., Fri., 2 to 5; Fri. at 9.20.

6. Wood-work

Exercises in carpentry, wood-turning, and pattern-making. Mr. CADY.

Three hours. Seven hours of attendance. Elective in either semester for Sophomores, Juniors, and Seniors who have had instruction in drawing. First semester, *Tu., Fri., 2 to 5.* Second semester, *Mon., 2 to 4., Fri., 2 to 5.*

[‡]All the courses in this department except 6 and 7 are required of candidates for the degree of Bachelor of Science in Mechanical Engineering, and, with the exception of 1-5, are elective for other students.

7. Metal-work

Exercises in chipping and filing; the use of machine tools; forging and hardening tools, etc. Mr. CADY.

Three hours. Seven hours of attendance. Elective in either semester for Sophomores, Juniors, and Seniors who have had instruction in drawing. First semester, *Tu., Fri., 2 to 5.* Second semester, *Mon., Fri., 2 to 5.*

8. Machine Drawing

Study and representation of machine parts; the principles of elementary machine design; sketches, detail, and assembly drawings of machines; practice in reading drawings. *Professor* HALL.

Three hours. Six hours of attendance. Second semester. Elective for students who have credit for Mechanical Drawing 3. Elective for other students by special permission from the head of the department. *Tu.*, *Fri.*, *2.20 to 5.20*.

9, 10. Kinematics

Velocity ratios, link-work, parallel motions, cams, rolling surfaces, gears and gear trains; machine tools; the application of the principles involved. Recitations, drawing, and the solution of problems. *Professor* HALL.

Six hours of attendance through the year. Elective for students who have credit for 8. Elective for other students by special permission from the head of the department. Mon., 2.20 to 4.20; Wed. at 10.20; Fri., 9.20 to 12.20.

11, 12. Machine Design

Applications of the principles of mechanics and the strength of materials to the design of representative types of boilers, engines, and various mechanisms; solution of problems illustrating the method of designing bolts and nuts, keys, journals and bearings, fly-wheels, valve gears, etc. Lectures, calculation, and drawing. *Professor* HALL.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 9, 10, and Mechanics 2. Mon., Th., 9.20 to 12.20.

14. Power Plant Engineering

Discussion of the relation and coördination of the various parts of the complete power plant; management, and methods of determining efficiency; selection of the best equipment from manufacturers' catalogues and actual inspection. Lectures, recitations, tests, and tours of inspection. *Professors* KENERSON and HALL.

Three hours. Second semester. Elective for students who have credit for 15, 16. Th., 2.20 to 5.20; Mon., Th., at 8.

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15, 16. Thermodynamics

Applications of the principles of gases and vapors to steam, gas, and other heat engines, air-compressors, refrigerating apparatus, etc.; discussion of the energy of fuel and the utilization of such energy for power purposes by means of various media; laws of the relation of variations of pressure, temperature, and volume of such media; analysis of the various cycles used in heat engines; the principles of the injector and the ejector. *Professor* KENERSON and Mr. BLAKE.

Three hours. Through the year. Elective for students who have credit for or are taking Physics 1, 2. Tu., Wed., Sat., at 9.20.

17, 18. Engineering Practice

Applications of the principles of thermodynamics and mechanics to the production, transmission, utilization, and measurement of power; valves and valve gears, and valve setting; indicator practice and tests of various forms of steam engines, gas engines, etc.; standardization of auxiliary apparatus used in making the various tests; boiler testing; flue gas and fuel analysis, etc. Lectures, recitations, and laboratory work. *Professor* KENERSON and Mr. BLAKE.

Three hours. Through the year. Elective for students who have credit for or are taking 15, 16. First semester, Wed., Fri., Sat., at 8. Second semester, Wed., Fri., at 8; Tu., 2.20 to 5.20.

19, 20. Materials of Engineering

Study of the sources, manufacture, and properties of the important materials used in engineering; laboratory tests to determine the behavior of materials when subjected to tensile, compressive, and torsional stresses; mixing and testing of cements and concretes; preparation and examination of sections for the microscopical study of the structure of metals and alloys. Lectures, recitations, and laboratory work. *Professor* KENERSON and Mr. BLAKE.

Three hours. Through the year. Elective for students who have credit for or are taking Mechanics 1. *Tu.*, *Fri.*, *at 10.20*, and a two-hour laboratory period to be arranged with the instructor.

21. General Engineering and Design

Lectures; discussion of special engineering problems. Professor HALL. Three hours. First semester. Mon., Th., at 8; Tu., 2.20 to 5.20.

22. Advanced Seminary and Laboratory Course

Discussion of general engineering problems, laboratory investigations,

inspection trips, reports and conferences. Professors KENERSON and HALL, Mr. BLAKE.

Three hours. Second semester. Mon., Th., 2 to 5.

24. Applied Hydraulics

Laboratory experiments in connection with Mechanics 4. Professor KENERSON and Mr. BLAKE.

One hour. Second semester. Must be taken with Mechanics 4.

25, 26. Thesis

A thesis is required of all candidates for the degree of Bachelor of Science in Mechanical Engineering. The thesis must embody a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

XVII. MECHANICS AND MECHANICAL DRAWING

- OTIS EVERETT RANDALL, PH.D., Professor of Mechanics and Mechanical Drawing
- ANSEL BROOKS, PH.B., M.E., Associate Professor of Mechanics and Mechanical Drawing

PAUL HART FRANCIS, Sc.M., Instructor in Mechanical Drawing

MECHANICS

1, 2. Mechanics of Solids

Statics, including resolution and composition of forces, determination of center of gravity, and problems relative to rigid bodies and flexible cords; dynamics, including rectilinear and curvilinear motion, virtual velocity, moment of inertia, work, energy and power, and friction; strength of materials, including tension, compression, shearing, torsion, and flexure; methods of graphical solution of problems. *Professor* BROOKS.

Four hours. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for Mathematics 7, 8. Mon., Tu., at 11.20; Th., 10.20 to 12.20.

3. Mechanics of Fluids

Hydrostatics; nature and use of instruments; flow through orifices,

over weirs, through tubes, through pipes, in conduits; flow of rivers; water supply and water power. *Professor* BROOKS.

Three hours. First semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1, 2. Wed., Fri., Sat., at 11.20.

4. Applied Hydraulics

Dynamics of water; theoretical consideration of water wheels, pumps, and pumping machinery. *Professor* BROOKS.

One hour. Second semester. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 3. Must be taken with Civil Engineering 34, and Mechanical Engineering 24. Wed., Fri., Sat., at 11.20. First five weeks of semester.

5, 6. Mathematical Mechanics

Comprehensive treatment of the principles of statics and dynamics; strength of materials; higher theoretical and practical problems. Intended primarily for students who are interested in the application of the principles of pure mathematics. *Professor* BROOKS.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for Mathematics 7, 8.

MECHANICAL DRAWING

1. Elementary Mechanical Drawing

Selection and use of drafting instruments; lettering; plane problem construction; curve tracing; elementary projection. *Professor* BROOKS and Mr. FRANCIS.

Three hours. Six hours of drawing. First semester. Required in the Freshman year of candidates for the degree of Bachelor of Science. Elective for other students. *Tu.*, *Fri.*, 2.20 to 5.20.

2. Descriptive Geometry

Discussion, proof, and graphic solution of problems relating to the point, line, and plane, line and surface generation and classification. *Professor* RANDALL and Mr. FRANCIS.

Three hours. Two hours of recitation and three hours of drawing. Second semester. Required in the Freshman year of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1. 1st div., recitations,

Tu. at 2.20, Fri. at 3.20; drawing, Tu., 3.20 to 5.20, and Fri., 4.20 to 5.20; 2d div., recitations, Tu. at 3.20, Fri. at 2.20; drawing, Fri., 3.20 to 5.20, and Tu., 4.20 to 5.20.

3. Descriptive Geometry

Discussion, proof, and graphic solution of problems relating to surface tangency, intersections, and developments; application of the principles of descriptive geometry in isometric drawing, shades and shadows and perspective, machine drawing, and practical engineering problems. *Professor* RANDALL and Mr. FRANCIS.

Three hours. Two hours of recitation and three hours of drawing. First semester. Required in the Sophomore year of candidates for the degree of Bachelor of Science. Elective for students who have credit for 2. 1st div., Mon., Fri., at 9.20; 2d div., Tu., Sat., at 10.20.

7, 8. Elementary Mechanical Drawing

Selection and use of drafting instruments; lettering; plane problem construction; elements of orthographic and isometric projections and perspective; construction of simple working drawings. Mr. FRANCIS. Three hours. Six hours of drawing. Through the year. Elective for Undergraduates. Tu., Fri., 2.20 to 5.20.

XVIII. MUSIC

EDWIN ERNEST WILDE, Lecturer in Music

1, 2. The Appreciation of Music

The aim of this course is to increase the appreciation of music by acquainting the student with the various devices used in musical composition, tracing the development of musical form from the early folksongs to the symphonic poems of our modern writers. Analytical study of important works of the representative composers from Bach to Wagner, Tschaikowsky, and Strauss. Lectures, illustrations at the piano and by soloists.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Mon., Wed., Fri., at 12.20.

PHILOSOPHY

XIX. PHILOSOPHY

EDMUND BURKE DELABARRE, PH.D., Professor of Psychology WALTER GOODNOW EVERETT, † PH.D., Professor of Philosophy and Natural Theology

BERNARD CAPEN EWER, PH.D., Acting Professor of Philosophy ALFRED HARRISON JONES, PH.D., Assistant Professor of Logic FRED WILLIAM MILLER, Assistant in Philosophy

1, 2. Introduction to Philosophy

A course designed to acquaint the student with some of the more significant problems and results of philosophy, and to train him in correct methods of reasoning. *Professor* JONES.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Mon., Th., Fri., at 9.20.

3, 4. Psychology and Ethics

First semester, Psychology. A survey of the main facts and laws of mental life, aiming to provide a sound foundation for further acquaintance with this and allied subjects, for an improved judgment in dealing with many practical problems, and for understanding the psychological bases of philosophy. Second semester, Ethics. An introductory course dealing in a concrete way with the moral values of daily experience, and intended to aid the student in forming a practical philosophy of life. First semester, *Professor* DELABARRE. Second semester, *Professor* EVERETT. [This year Acting Professor EWER.]

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Either semester may be elected independently by Seniors only. *Tu.*, *Wed.*, *Sat.*, *at 9.20*.

5, 6. Psychology, Intermediate Course

A study of the fundamental principles on which a scientific system of psychology must be based. The nature and composition of consciousness, its relation to bodily processes, and its complete subjection to law. The criteria for accepting evidence and forming sound judgments in connection with the problems of so-called "psychical research." *Professor* DELABARRE.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for a course in Psychology.

[†] On leave of absence during the academic year 1915-16.

7, 8. History of Philosophy

The successive philosophical systems as revealing the logical development of European philosophy. The treatment also aims to exhibit the significant relations which philosophy has sustained to civilization, especially in its fundamental political, scientific, religious, and cultural elements. *Professor* EVERETT. [This year Acting Professor EWER.]

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Mon., Th., Fri., at 9.20.

9. Philosophy of Religion

A constructive study of the nature of the religious consciousness, and of the ultimate problems of religious belief. *Professor* EVERETT. [This year *Acting Professor* EWER.]

Three hours. First semester. Elective for Juniors, Seniors, and Graduates who have credit for a year course in Philosophy. Wed., Fri., Sat., at 11.20.

10. Applications of Psychology

Description of some of the important ways in which the principles of psychology are being practically applied to the problems of modern life. *Professor* DELABARRE.

Three hours. Second semester. Elective for students who have credit for 3. Tu., Wed., Sat., at 9.20.

11, 12. Experimental Psychology, Introductory Laboratory Course Description of the main lines and results of experimental research; demonstrations by the instructor or the class; training in the use of apparatus and in careful scientific observation and measurement. *Professor* DELABARRE.

Three hours. Six hours of attendance. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for 3.

13, 14. Current Tendencies in Philosophy

A seminary course designed to introduce the student to the more important philosophical theories of the present day, as illustrated in the work of such representative thinkers as Spencer, Royce, James, Bergson, and Russell. *Professor* JONES.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates.

PHILOSOPHY

27. Logic

A systematic study of the more important doctrines of logic. Especial attention is given to the detection of fallacies. *Professor Jones*. Three hours. First semester. Elective for Juniors and Seniors. *Mon.*, *Wed.*, *Th.*, *at 10.20*.

30. History of Religion

An outline study of the history of the principal religions of the world. This course is the same as course 30 offered by the Department of Biblical Literature and History. *Professors* Fowler and Jones. Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. *Wed.*, Fri., Sat., at 11.20.

17, 18. Psychology, Advanced Course

A seminary for the discussion of important problems in psychology. The problems discussed will vary, and the course may be taken for two or more years. *Professor* DELABARRE.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for 5, 6.

19, 20. Experimental Psychology, Advanced Laboratory Course

The aim is to study further the problems of experimental psychology, and, whenever possible, to make original contributions to scientific knowledge. The problems investigated will vary, and the course may be taken for two or more years. *Professor* DELABARRE.

One to six hours. Two to twelve hours of attendance. Through the year. Elective for students who have credit for 11, 12. May be taken for more than six hours by Graduates.

21, 22. Advanced Ethics

A seminary course for the study of the more important problems of ethical theory. Lectures, written reports, and discussions. Subject for 1915–16: Evolutionary Ethics, based upon Spencer and other representatives of the school, with practical applications to the fields of labor and philanthropy. *Acting Professor* EWER.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for a year course in Philosophy.

[23, 24. Philosophical Seminary]

A seminary for the study of the problems of historical and contemporary thought. Reading, written reports, and discussions.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for a year course in Philosophy. Not offered in 1915-16.

XX. PHYSICS

CARL BARUS, PH.D., LL.D., Hazard Professor of Physics ALBERT DEFOREST PALMER, PH.D., Associate Professor of Physics ARTHUR EUGENE WATSON, PH.D., Assistant Professor of Electrical Engineering

PERRY BLAINE PERKINS, PH.D., Assistant Professor of Applied Physics

1, 2. Elementary Physics ‡

Designed for those who have had little previous training in physics. First semester, dynamics, molecular physics, and heat. Second semester, optics, acoustics, and electricity. Discussion of the more elementary features of the subjects. Lectures illustrated by experiments and the lantern; weekly written exercises. *Professor* BARUS.

Three hours. Through the year. Elective for Undergraduates who have credit for entrance algebra and plane geometry. Mon., Wed., Th., at 10.20.

27, 28. Elementary Physics

Identical with 1, 2, except that the written exercises mentioned will be replaced by problems solved in an additional hour in the classroom. D. E. Jones's *Examples in Physics* (Macmillan) are used. *Professor* BARUS.

Three hours. Through the year. Four hours of attendance. Required of all candidates for the degree of Bachelor of Science. Mon., Wed., Th., at 10.20; Fri. at 11.20.

3, 4. Elementary Physics, continued §

Treats the more advanced parts of the subjects taken in the same order as in 1, 2. *Professor* BARUS.

Three hours. Through the year. Elective for students who have credit for 1, 2, and Mathematics 1, 2. Tu., Fri., Sat., at 10.20.

\$ Students who intend to teach Physics should elect courses 1, 2; 3, 4; 5, 6.

§ Graduates taking course 3, 4 are held responsible for all the demonstrations, or for the full equivalent of either Edser's or Watson's or Daniel's *Principles of General Physics*.

PHYSICS

5, 6. Experimental Physics

An introduction to the theory and practice of physical manipulation. Experimental study of physical phenomena selected to meet the needs of individual students. Written reports and solution of problems. *Professor* PALMER.

Three hours. Six hours of attendance. Through the year. Elective for students who have credit for 1, 2, or 27, 28.

7, 8. Mathematical Treatment of Dynamical Problems ‡

First semester, discussion of the general principles of dynamics and the development of the general equations of motion. Second semester, application of these principles to special problems in thermodynamics and hydrodynamics. *Professor* PALMER.

Three hours. Through the year. Elective for Seniors and Graduates who have credit for 5, 6, and Mathematics 9.

9, 10. Mathematical Theory of Electricity and Magnetism[‡]

Includes a discussion of the more important problems of electrical science. *Professor* PALMER.

Three hours. Through the year. Elective for Graduates and Seniors who have credit for 5, 6, and Mathematics 9.

11, 12. Advanced Laboratory Course

Special problems and reference to original sources for methods of solution. *Professors* BARUS and PALMER.

Three or six hours. Six or twelve hours of attendance. Through the year. Elective for students who have credit for 5, 6.

13, 14. Applied Harmonic Analysis and Applied Vector Analysis § Importance of Fourier's method shown by examples drawn from the analytical theory of heat, from elastics, alternating electricity, and elsewhere; treatment by the aid of spherical harmonics. Bessel functions and Lamé functions; the chief theorems of vector analysis deduced and applied to dynamics, elastics, hydrodynamics, the electro-magnetics of Maxwell and Hertz, and the electronic theory of Heaviside, Lorentz, and others. *Professor* BARUS.

t ln determining which of the two courses 7, 8, and 9, 10, shall be offered in any given year, the preference of students will be considered.

In determining the content of courses 13, 14, and 15, 16, the preference of students will be considered.

Three hours. Through the year. Required in the second semester of candidates for the degree of Bachelor of Science in Electrical Engineering. Elective for Seniors and Graduates who have credit for 1, 2, and Mathematics 7, 8.

15, 16. Physics, Advanced Course ‡

Lectures on dynamics, potential, elastics, hydrostatics, hydrodynamics, viscosity, capillarity, electrostatics, magnetism, electro-magnetism, thermo-electrics, induction, Fresnel's optics, the electro-magnetic theory of light, thermal analytics, and thermodynamics. *Professor* BARUS.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates who have credit for Mathematics 7, 8.

21, 22. Theory of Measurements

Lectures and recitations on the theory and precision of measurements, and on methods of taking, recording, and reducing observations; laboratory instruction in selected physical measurements. *Professor* PALMER.

Three hours. Five hours of attendance. Through the year. Required of candidates for the degree of Bachelor of Science. Elective for students who have credit for 1, 2, and Mathematics 7, 8, or 19, 20. Mon., Fri., at 12.20. Laboratory hours will be posted in 11 Wilson Hall on the first day of each term.

23, 24. Precision Measurements in Photometry, Electricity, and Magnetism

Professor PERKINS.

Four hours. Eight hours of attendance. Through the year. Elective for students who have credit for 5, 6, or 21, 22, and Mathematics 7, 8, or 19, 20.

25, 26. Radiation, Optics, and Heat

Experimental study of selected phenomena; demonstrations and personal conferences. *Professor* PALMER.

Three or six hours. Six or twelve hours of attendance. Through the year. Elective for students who have credit for 5, 6, or 21, 22.

‡ In determining the content of courses 13, 14, and 15, 16, the preference of students will be considered.

ELECTRICAL ENGINEERING

ELECTRICAL ENGINEERING:

Professors WATSON and PERKINS

1, 2. Introductory Technical Course

Fundamental principles of electricity and magnetism; theory of dynamo-electric machinery; methods of generating and utilizing direct currents; characteristics of generators and motors.

Three hours. Two hours of recitation and two hours of laboratory work. Through the year. Elective for students who have credit for Physics 1, 2, or 27, 28, and Mathematics 5 or 18. Required of candidates for the degree of Bachelor of Science in Mechanical Engineering. Tu., Fri., at 8.00. First three weeks of first semester, Sat. at 10.20.

3. Elementary Electrical Engineering

A short course covering the methods of generating, transmitting, distributing, and utilizing electrical energy.

Three hours. Two hours of recitation and two hours of laboratory work. First semester. Elective for students who have credit for Physics 1, 2, or 27, 28, and Mathematics 5 or 18. Required of candidates for the degree of Bachelor of Science in Civil Engineering. Mon., Th., at 9.20. First three weeks, Sat. at 10.20.

[5. Telegraph Engineering]

History and present practice of telegraphic, signaling, and protective systems.

One hour. First semester. Elective for students who have credit for Physics 1, 2, or 27, 28. Not offered in 1915-16.

[6. Telephone Engineering]

Magneto and common-battery manual systems; automatic systems; equipment of central and branch exchanges.

Two hours. Second semester. Elective for students who have credit for 1 or 3. Not offered in 1915–16.

7. Telephone and Telegraph Engineering

Temporary combination of 5 and 6.

Three hours. Four hours of attendance. First semester. Elective in 1915-16 for students who have credit for Physics 1, 2. Mon., Th., at 10.20; Tu. at 11.20.

* All the courses in this department, except 3, are required of candidates for the degree of Bachelor of Science in Electrical Engineering.

8. Direct Current Machine Design

Calculation and design of generators, motors, and auxiliary apparatus. Three hours. Second semester. Elective for students who have credit for 1. Mon., 9.20 to 11.20; Th. at 9.20.

9. Theory of Alternating Currents

A mathematical and graphical treatment of circuits containing resistance, inductance, and capacity. Principles of alternating current machinery.

Three hours. Two hours of recitation and two hours of laboratory work. First semester. Elective for students who have credit for 2 and Mathematics 20. Mon., Th., at 9.20.

10. Alternating Current Machinery

Methods of generating and utilizing alternating currents; characteristics of generators, motors, converters, and transformers.

Three hours. Two hours of recitation and two hours of laboratory work. Second semester. Elective for students who have credit for 2. Wed., Fri., at 10.20.

[11. Alternating Current Machinery]

Identical with 10, and to be substituted for it after 1916–17. Three hours. First semester. Not offered in 1915–16.

14. Alternating Current Machine Design

Calculation and design of generators, motors, transformers, and auxiliary apparatus.

Three hours. Four hours of attendance. Second semester. Elective for students who have credit for 9. Mon., Fri., at 9.20; Mon., Tu., at 10.20.

16. Traction and Transmission Engineering

Electric railway systems and equipment; theory and design of high tension transmission lines and low tension net-works.

Three hours. Second semester. Elective for students who have credit for 11. Mon., Tu., Th., at 11.20.

17, 18. Seminary in Electrical Engineering

Reading and discussion of current technical literature.

One hour. Through the year. Elective for students who have credit for 2. 17 will not be offered until 1917-18. *Th. at 10.20*.

19, 20. Thesis

A thesis is required of all candidates for the degree of Bachelor of Science in Electrical Engineering excepting those who, with the permission of the head of the department, are allowed to substitute a regular three-hour course for one semester in some other department. The thesis must embody a design or a review of an engineering plant, appliance, process, or structure, or the results of an experimental investigation.

XXI. ROMAN LITERATURE AND HISTORY

ALBERT GRANGER HARKNESS, A.M., LITT.D., Professor of Roman Literature and History

JOHN FRANCIS GREENE, A.M., Associate Professor of Roman Literature and History

1. Livy

Designed to enable the student to acquire facility in reading Latin, and to instruct him in the use of the Latin texts as a means of gaining a knowledge of Roman history. Grammatical study and literary criticism also receive attention. *Professors* HARKNESS and GREENE.

Three hours. First semester. Elective for students who presented elementary and advanced Latin for admission. 1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 12.20.

2. Cicero's Letters

Aims and methods as in 1. Professors HARKNESS and GREENE.

Three hours. Second semester. Elective for students who presented elementary and advanced Latin for admission. 1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Th., Sat., at 12.20.

3. Horace's Odes and Epodes, Tibullus, Propertius

Critical study of the poems, supplemented by rapid reading with a view to comprehending the spirit of the author. The literary side of the study is made prominent. Lectures; literary topics assigned to the class for special study. *Professor* GREENE.

Three hours. First semester. Elective for Sophomores. Mon., Wed., Fri., at 12.20.

4. Horace's Satires and Epistles, Juvenal Aims and methods as in 4. Professor HARKNESS.

Three hours. Second semester. Elective for Sophomores. Mon., Wed., Fri., at 12.20.

5, 6. Latin Poetry

Aims to give a connected and comprehensive view of the history and development of Latin poetry. Lectures on the lives and writings of the authors; reading of characteristic selections; special study by members of the class of assigned topics in literary history and criticism. First semester, Plautus. Second semester, Lucretius and Catullus. Forms with 7, 8 a two-year consecutive course, affording a general survey of Roman literature. *Professors* HARKNESS and GREENE.

Three hours. Through the year. Elective for Juniors and Seniors. Either semester may be elected independently. Tu., Wed., Sat., at 9.20.

[7, 8. Latin Prose]

Aims to give a connected and comprehensive view of the history and development of Latin prose. Lectures on the lives and writings of the authors, on the development of oratory, etc.; reading of characteristic selections; special study, by members of the class, of assigned topics in literary history and criticism. First semester, specimens of early Latin, Cicero's *Brutus*, and Quintilian. Second semester, the *Annals* of Tacitus. Forms with 5, 6 a two-year consecutive course, affording a general survey of Roman literature.

Three hours. Through the year. Elective for Juniors and Seniors. Either semester may be elected independently. Not offered in 1915–16.

9, 10. Petronius, Pliny the Younger, Martial

Professor HARKNESS.

One hour. Through the year. Elective for Juniors, Seniors, and Graduates. Fri. at 2.20.

11, 12. Latin Composition

Professor GREENE.

One hour. Through the year. Elective for Sophomores, Juniors, and Seniors.

13, 14. History of the Roman Empire .

The Early Empire. The Age of the Antonines. The Age of Constantine. *Professor* GREENE.

Three hours. Through the year. Elective for Sophomores, Juniors, and Seniors. Either semester may be elected independently. Tu., Wed., Sat., at 9.20.

16. Roman Civilization

An outline of Roman civilization and its influence on modern times. Special attention will be given to the literature and to the political and social life. No knowledge of Latin required. Must be preceded in the first semester by Greek 15, Greek Civilization. The two semesters together constitute the course in Classical Civilization. *Professors* HARKNESS and GREENE.

Three hours. Second semester. Required in the Freshman or Sophomore year of candidates for the degree of Bachelor of Philosophy. Not elective. 1st div., Mon., Th., Fri., at 9.20; 2d div., Mon., Tu., Th., at 11.20. For 1915-16 a third division in Classical Civilization will take Latin 16 in the first semester and Greek 15 in the second semester. Tu., Fri., Sat., at 10.20.

17, 18. Seminary in Latin

Subject for 1915–16: Reading from the poetry of the Empire. Gudeman's Latin Literature of the Empire, vol. 11. Questions in textual criticism and in the structure of Latin verse will be considered. Professors HARKNESS and GREENE.

Three hours. Two hours of attendance. Through the year. Elective for Graduates.

XXII. ROMANCE LANGUAGES AND LITERATURES

- COURTNEY LANGDON, A.B., Professor of the Romance Languages and Literatures
- ALBERT BUSHNELL JOHNSON, A.M., Associate Professor of the Romance Languages and Literatures

CHARLES HERMAN HUNKINS, DR. de l'Université de Paris, Assistant Professor of the Romance Languages and Literatures

BERNARD KEENAN, A.M., Instructor in French

EDOUARD R. MASSEY, Instructor in French

1, 2. Elementary French, First Year

Grammar, composition, dictation, conversation; translation of selections from modern authors into idiomatic English. Mr. MASSEY.

Three hours. Through the year. Elective for students who did not present French for admission. Mon., Wed., Fri., at 8.

3, 4. Elementary French, Second Year

Reading of easy modern French prose in the form of stories, plays, or

historical or biographical sketches; review of grammar; composition and conversation based upon the texts read. *Professor* HUNKINS. Three hours. Through the year. Elective for students who have credit for 1, 2, or who presented elementary French (1 year) for admission. *Mon.*, *Wed.*, *Fri.*, *at 8*.

5, 6. Intermediate French

Reading of modern and classical authors; review of grammar; composition and conversation based upon the texts read; dictation. *Messrs*. KEENAN and MASSEY.

Three hours. Through the year. Elective for students who have credit for 3, 4, or who presented elementary French (2 years) for admission. 1st div., Wed., Fri., Sat., at 11.20; 2d div., Tu., Wed., Sat., at 9.20; 3d div., Mon., Th., Fri., at 9.20.

7, 8. Advanced French

An introduction to classical and modern French literature; composition; conversation based on the texts read; dictation. *Professors* JOHNSON and HUNKINS.

Three hours. Through the year. Elective for students who have credit for 5, 6, or who presented intermediate French for admission. 1st div., Mon., Th., Fri., at 9.20; 2d div., Wed., Fri., Sat., at 11.20; 3d div., Mon., Th., Fri., at 9.20; 4th div., Wed., Fri., Sat., at 11.20.

9, 10. The Realistic School

Flaubert, Augier, the younger Dumas, the Goncourts, Daudet, Zola, Taine, Loti, and others; abstracts, in French, of works read outside the class; sight reading a prominent feature. The course will be conducted largely in French. *Professor* HUNKINS.

Three hours. Through the year. Elective for students who have credit for 7, 8. Tu., Wed., Sat., at 9.20.

11, 12. The Romantic School

The history of the romantic school; reading of authors from Chateaubriand and Victor Hugo to Rostand; abstracts on outside reading. Lectures in English and in French. *Professor* LANGDON.

Three hours. Through the year. Elective for students who have credit for 7, 8. Mon., Wed., Th., at 10.20.

[13, 14. The Classical School]

The history of the classical school; its formation, its apogee, and its decline. Lectures in French.

Three hours. Through the year. Elective for students who have credit for 9, 10, or 11, 12, and for approved students who have credit for 7, 8. Not offered in 1914–15.

15, 16. Modern Spanish

Grammar, conversation, composition, and reading of modern authors. *Professor* JOHNSON.

Three hours. Through the year. Elective for Juniors and Seniors, and for Sophomores not electing more than one other modern language. *Tu.*, *Fri.*, *Sat.*, *at* 10.20.

17, 18. Modern Italian

Grammar, composition, and reading of modern authors. *Professor* LANGDON.

Three hours. Through the year. Elective for Juniors and Seniors, and for Sophomores not electing more than one other modern language. Mon., Th., Fri., at 9.20.

19, 20. Dante in English

A study of the whole of the Divina Commedia in English, in the light of modern thought and of other world-poems. Professor LANGDON.

Three hours. Through the year. Elective for Juniors, Seniors, and Graduates. Students are advised to elect this course in their Senior year. Mon., Tu., Th.. at 11.20.

21, 22. Spanish Language and Literature

Selected works of classical and modern authors; composition; conversation. *Professor* JOHNSON.

Three hours. Through the year. Elective for students who have credit for 15, 16. Mon., Tu., Th., at 11.20.

[23, 24. Practice in Writing and Speaking French]

Intended especially for those preparing to teach. Written and oral translations from English into French. Conversation; dictation; phonetics.

Three hours. Through the year. Elective for students who have credit for 7, 8. Not offered in 1915–16.

XXIII. SOCIAL AND POLITICAL SCIENCE ‡

- JAMES QUAYLE DEALEY, PH.D., Professor of Social and Political Science
- JOHN CORLISS DUNNING, LL.B., PH.D., Assistant Professor of Political Science

HAROLD STEPHEN BUCKLIN, A.B., Instructor in Social Science

SOCIAL SCIENCE§

1. Elementary Social Science

This course aims to present a general outline of sociological teachings, a brief discussion of some of the more important modern social problems, and a study of the rise and development of the family. *Professor* DEALEY.

Three hours. Second semester. A year course consisting of Economics 1, and either Social Science 1 or Political Science 1, is required in Sophomore, Junior, or Senior year of candidates for the degree of Bachelor of Arts and Bachelor of Philosophy, and in Sophomore year of candidates for the degree of Bachelor of Science. *Tu.*, *Fri.*, *Sat.*, *at 10.20*.

3, 4. Social Problems, Movements, and Agencies

Consideration of such social problems as crime, juvenile delinquency, poverty, and disease; of immigration and the temperance question; and of such social movements as child welfare, improved housing, civic recreation and betterment. A survey of social agencies concerned with these problems, and a study of principles underlying social work. *Mr.* BUCKLIN.

Three hours. Elective for Juniors, Seniors, and Graduates. Mon., Wed., Fri., at 12.20.

5. Origin and Development of Society

Formation and dispersion of primitive groups, union and coalescence of groups, stages of culture, origin of races, the race struggle, institutions growing out of the race struggle; development of social institutions and problems involved.

[‡] Semester courses in this department may be elected separately unless otherwise stated.
§ The advanced courses in Social Science are open only to students who have credit for Economics 1 and Social Science 1, but students who have completed Economics 1 and Political Science 1 may elect courses in Social Science, provided that either Social Science 1 or 3 or 4 is first elected.

SOCIAL AND POLITICAL SCIENCE

Three hours. First semester. Followed in second semester by 16. Elective for Juniors, Seniors, and Graduates. Mon., Tu., Th., at 11.20.

16. Social Psychology

Genesis of the social instincts. The individual and society. Psychology of the crowd; social suggestion and imitation. The psychology of social groups. Psychological principles underlying social order and progress. Applications of the principles of social psychology to modern social problems.

Three hours. Second semester. Elective for Juniors, Seniors, and Graduates. Mon., Tu., Th., at 11.20.

7. Sociology as a Science ‡

Relation of sociology to other sciences and its fundamental teachings; the principles underlying the development of society and its great social institutions. *Professor* DEALEY.

Three hours. First semester. Followed in the second semester by 8. Elective for Juniors, Seniors, and Graduates. Mon., Th., 4.30 to C.

8. Sociology in its Applications ‡

Sociological principles and teachings in respect to social progress in its chief aspects. A survey of the constructive trend in modern civilization. *Professor* DEALEY.

Three hours. Second semester. Preceded in the first semester by 7. Elective for Juniors, Seniors, and Graduates. Mon., Th., 4.30 to 6.

[11, 12. Seminary in Sociology]

Three hours. Through the year. Elective for Seniors and Graduates. Not offered in 1915-16.

13, 14. Social Investigation and Training

Study and practice in methods of gathering, interpreting, and presenting the data of social problems and movements. Investigation of one or more specific problems. This work will be done in coöperation with the Society for Organizing Charity and other selected social agencies. *Mr.* BUCKLIN.

Three hours. Five hours of field work and one hour of class-room discussion. This course must be preceded or accompanied by Social Science 3, 4. Through the year. Elective for Graduates, and for a limited number of approved Juniors and Seniors. Fri., 5 to 6.

Courses 7. 8 will include a study of Lester F. Ward's system of sociology.

POLITICAL SCIENCE ‡

1. Elementary Political Science

(See Social Science 1.) A study of political development, the forms and functions of government, and the growth of modern democracy. Illustrative material will be drawn chiefly from the political systems and problems of the commonwealths of the United States. *Professor* DEALEY.

Three hours. First semester. Mon., Wed., Fri., at 12.20.

3, 4. Government and Politics of the United States

First semester, national government, its organization, powers, and methods; current political issues. Second semester, municipal governments; framework and activities of European and American municipalities. *Professor* DUNNING.

Three hours. Elective for Juniors, Seniors, and Graduates. Mon., Th., Fri., at 9.20.

5. Governments and Politics of Foreign States

The political systems of typical leading states, including some of the states of Latin-America. Current international political situations and problems. *Professor* DUNNING.

Three hours. First semester. Followed in the second semester by 6. Elective for Juniors, Seniors, and Graduates. Mon., Wed., Th., at 10.20.

6. International Law

This year the purpose of the course is to consider the diplomatic problems of the present war. Special stress will be placed on the neutrality policy of the United States. *Professor* DUNNING.

Three hours. Second semester. Preceded in the first semester by 5. Elective for Juniors, Seniors, and Graduates. Mon., Wed., Th., at 10.20.

7. Jurisprudence

An analysis of the fundamental concepts of the science of Law. The historical development of Roman and English legal systems. *Professor* DUNNING.

Three hours. First semester. Followed in the second semester by 8. Elective for Seniors and Graduates. Tu., Wed., Sat., at 9.20.

[‡] The advanced courses in Political Science are open only to those students who have credit for Economics 1 and Political Science 1. But students who have completed Economics 1 and Social Science 1 may elect advanced courses in Political Science, provided that either Political Science 1 or 3 or 4 is first elected.

PHYSICAL TRAINING

8. Constitutional Law

Principles and development of American constitutional law. Case system. *Professor* DUNNING.

Three hours. Second semester. Preceded in the first semester by 7. Elective for Seniors and Graduates. Tu., Wed., Sat., at 9.20.

9, 10. Seminary in Political Science

A study of ancient and modern political theories. Rise of modern democratic principles. Present theories in respect to the state; its origin, sovereignty, and forms of government. *Professor* DEALEY.

Three hours. Through the year. Elective for Seniors and Graduates. Mon., Th., 3 to 4.30. Not to be offered in 1916-17.

13, 14. Investigation of Special Topics

Intended to train students in methods of gathering and presenting data in the study of political problems. In connection with this course, work in comparative legislation may be taken under the direction of the Legislative Reference Bureau of the State Library. *Professor* DUNNING.

Three hours. Five hours of investigation and one hour of class-room work. Through the year. Elective for Graduates, and for a limited number of approved Seniors.

PHYSICAL TRAINING

FREDERICK WILLIAM MARVEL, PH.B., Professor of Physical Training HENRY GARFIELD CLARK, PH.B., Instructor in Physical Training EDWARD WINSLOW HINCKS, PH.B., Instructor in Physical Training CHARLES HENRY HUGGINS, Assistant in the Gymnasium

GEORGE FRANKLIN HERRICK, Assistant in the Gymnasium

From Thanksgiving to the Spring Recess, all first and second year students are required to attend gymnasium exercises three times a week as follows:

FRESHMEN. 1st div., Tu., Fri., Sat., at 10.20; 2d div., Mon., Tu., Th., at 4.20.

SOPHOMORES. 1st div., Mon., Wed., Th., at 10.20; 2d div., Tu., Th., Fri., at 3.20.

A voluntary class for Juniors and Seniors will be held on Mon., Tu., Fri., at 5.10. Classes in heavy gymnastics, under the direction of a special instructor, are held six afternoons a week. Classes in wrestling, under the direction

of a special instructor, are held six afternoons a week. Instruction in swimming, under the direction of a special instructor, is given as a part of the required work. Special instruction is given by appointment.

No charge is made for instruction in any branch of gymnastics or athletics.

COURSE IN ORIENTATION

Lectures upon the scope and aims of college education by administrative officers and members of the Faculty.

The object of the course is to explain to the new students the organization and administrative system of the college; to instruct them concerning the general content of the academic curriculum; to describe the libraries, laboratories, and other facilities for study; to offer general advice regarding methods of study and the preservation of health; and to discuss the relation of the social organizations to the college and the students. The lectures will define and describe the general subjects of the curriculum, — such as literature and language, art, philosophy, and the various sciences; discuss their relations to one another; and attempt to determine their intellectual, moral, esthetic, and vocational values.

One hour. Through the year. Required of all Freshmen. Manning Hall, Fri. at 2.20.

TABLE OF ELECTIVE COURSES, 1914-15;

FIRST SEMESTER

Art 11 So. Jr. Sr. Gr. 13 So. Jr. Sr. Gr. 15 Fr. So. Jr. Sr. 17 So. Jr. Sr. Astronomy 1 Fr. So. Jr. Sr. 5 So Sr Gr **Biblical** Literature 1 Jr. Sr. Gr. 3 Sr. Gr. 5 Gr. 7 Gr. 8 Sr. Gr. 9 Sr. Gr. 11 Jr. Sr. Gr. 15 Jr. Sr. Gr. 19 So. Jr. Sr. Gr. 21 Gr. Sr. Jr. Biology 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. 7 Jr. Sr. 9 Jr. Sr. Gr. 11 So. Jr. Sr. 13 Jr. Sr. 15 Fr. So. Jr. Sr. 17 Jr. Sr. Gr. 33 Gr. 35 Gr. 37 Sr. Gr. 39 Gr. 41 Gr. Botany 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. Gr. 5 So. Jr. Sr.

Botany 7 Gr. Sr. Jr. 9 Fr. So. Jr. Sr. 13 Jr. Sr. Gr. Chemistry 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. 5 Jr. Sr. Gr. 7 Jr. Sr. Gr. 9 Sr. Gr. 13 Gr. 15 Jr. Sr. Gr. 19 Gr. 21 Jr. Sr. Gr. 23 Jr. Sr. Gr. 25 Gr. 27 Sr. Gr. 29 Sr. Gr. Civil Engineering 3 So. Jr. Sr. 7 So. Jr. Sr. 9 Jr. Sr. 13 Jr. Sr. 15 Sr. 19 Sr. Economics 5 Jr. Sr. Gr. 9 Jr. Sr. Gr. 11 Jr. Sr. Gr. 13 Jr. Sr. Gr. 15 Jr. Sr. Gr. 21 Jr. Sr. Gr. 23 Sr. Gr. Education 2 Jr. Sr. Gr. 3 Jr. Sr. Gr. 5 Gr. Sr.

Education 7 Gr. 9 Gr. Sr. 11 Gr. 13 Gr. Sr. 15 Gr. Sr. Electrical Engineering 1 So. Jr. Sr. 3 So. Jr. Sr. 7 So. Jr. Sr. 9 Jr. Sr. English 3 So. Jr. 5 Jr. Sr. 7 So. Jr. Sr. 11 So. Jr. 15 Jr. Sr. Gr. 17 Jr. Sr. Gr. 23 Jr. Sr. Gr. 25 So. Jr. Sr. 27 Jr. Sr. 35 Jr. Sr. 37 Jr. Sr. 43 Gr. Sr. French 1 Fr. So. Jr. Sr. 3 Fr. So. Jr. Sr. 5 Fr. So. Jr. Sr. 7 Fr. So. Jr. Sr. 9 So. Jr. Sr. 11 So. Jr. Sr. 23 So. Jr. Sr. Geology 1 Fr. So. Jr. Sr. 9 So. Jr. Sr. 11 Gr. Sr. 13 Jr. Sr. Gr.

‡Fr., So., Jr., Sr., Gr., indicate that the courses after which these abbreviations stand are open to Freshmen, Sophomores, Juniors, Seniors, or Graduates, respectively.

German 1 Fr. So. Jr. Sr. 3 Fr. So. Jr. Sr. 5 Fr. So. Jr. Sr. 7 Fr. So. Jr. Sr. 9 Fr. So. Jr. Sr. 13 So. Jr. Sr. 17 So. Jr. Sr. 27 So. Jr. Sr. 33 Gr. Sr. 35 Gr. Sr. 41 Gr. Greek A Fr. So. Jr. Sr. 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. 5 Jr. Sr. 17 Gr. Sr. History 5 Jr. Sr. Gr. 7 So. Jr. Sr. Gr. 11 Gr. Sr. Jr. 17 Gr. Sr. 19 Jr. Sr. Gr. 21 So. Jr. Sr. Gr. Italian 17 So. Jr. Sr. 19 Jr. Sr. Gr. Latin 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. 5 Jr. Sr. 9 Jr. Sr. Gr. 11 So. Jr. Sr. 13 So. Jr. Sr. 17 Gr.

Mathematics 2 Fr. So. Jr. Sr. 5 Fr. So. Jr. Sr. 7 So. Jr. Sr. 9 Jr. Sr. 11 Jr. Sr. 13 Fr. So. Jr. Sr. 17 Fr. So. Jr. Sr. 19 So. Jr. Sr. 21 Gr. Sr. Jr. 29 Jr. Sr. Gr. 41 So. Jr. Sr. Mechanical Drawing 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. 7 Fr. So. Jr. Sr. Mechanical Engineering 6 So. Jr. Sr. 7 So. Jr. Sr. 9 Jr. Sr. 11 Sr. 15 So. Jr. Sr. 17 So. Jr. Sr. 19 Jr. Sr. 21 Sr. Mechanics 1 Jr. Sr. 3 Sr. 5 Sr. Gr. Music 1 So. Jr. Sr. Philosophy 1 So. Jr. 3 So. Jr. Sr. 5 Jr. Sr. Gr. 7 Jr. Sr. Gr.

Philosophy 9 Jr. Sr. Gr. 11 Jr. Sr. Gr. 13 Jr. Sr. Gr. 17 Sr. Gr. 19 Sr. Gr. 21 Sr. Gr. 27 Jr. Sr. **Physics** 1 Fr. So. Jr. Sr. 3 So. Jr. Sr. 5 So. Jr. Sr. 7 Sr. Gr. 9 Gr. Sr. 11 Jr. Sr. Gr. 13 Sr. Gr. 15 Jr. Sr. Gr. 21 Jr. Sr. 23 Jr. Sr. Gr. 25 Jr. Sr. Gr. **Political** Science 1 So. Jr. Sr. 3 Jr. Sr. 5 Jr. Sr. Gr. 7 Sr. Gr. 9 Sr. Gr. 13 Gr. Sr. Social Science 3 Jr. Sr. Gr. 5 Jr. Sr. Gr. 7 Jr. Sr. Gr. 13 Gr. Sr. Jr. Spanish 15 So. Jr. Sr. 21 Jr. Sr.

SECOND SEMESTER

Art

12 So. Jr. Sr. Gr. 14 So. Jr. Sr. Gr. 16 Fr. So. Jr. Sr. 18 So. Jr. Sr. Astronomy 2 Fr. So. Jr. Sr. **Biblical** Literature 2 Jr. Sr. Gr. 4 Sr. Gr. 6 Gr. 7 Gr. 8 Sr. Gr. 10 Sr. Gr. 12 Jr. Sr. Gr. 16 Jr. Sr. Gr. 20 So. Jr. Sr. Gr. 22 Jr. Sr. Gr. 30 Jr. Sr. Gr. Biology 2 Fr. So. Jr. Sr. 4 So. Jr. Sr. 8 Jr. Sr. 10 Jr. Sr. Gr. 12 So. Jr. Sr. 14 Jr. Sr. 16 So. Jr. Sr. 18 Jr. Sr. Gr. 20 Fr. So. Jr. Sr. 22 Jr. Sr. 34 Gr. 36 Gr. 38 Sr. Gr. 40 Gr. 42 Gr. Botany 2 Fr. So. Jr. Sr. 4 So. Jr. Sr. Gr. 6 So. Jr. Sr. Gr. 8 Gr. Sr. Jr. 10 Fr. So. Jr. Gr. 14 Jr. Sr. Gr.

Chemistry 2 Fr. So. Jr. Sr. 4 So. Jr. Sr. 6 Jr. Sr. Gr. 8 Jr. Sr. Gr. 10 Sr. Gr. 12 Sr. Gr. 14 Gr. 16 Jr. Sr. Gr. 20 Jr. Sr. Gr. 22 Jr. Sr. Gr. 24 Jr. Sr. Gr. 26 Gr. 28 Sr. Gr. 30 Sr. Gr. 32 Sr. Gr. Civil Engineering 2.1 Fr. So. Jr. Sr. 5 So. Jr. Sr. 6 Jr. Sr. 8 Jr. Sr. 10 Jr. Sr. 12 So. Jr. Sr. 20 Sr. 22 Sr. 24 Sr. 28 Jr. Sr. 30 Sr. 32 Sr. 34 Sr. Economics 6 Jr. Sr. Gr. 8 Jr. Sr. Gr. 12 Jr. Sr. Gr. 14 Jr. Sr. Gr. 16 Jr. Sr. Gr. 22 Jr. Sr. Gr. 24 Sr. Gr. Education 1 Jr. Sr. Gr. 4 Jr. Sr. Gr. 6 Gr. Sr.

Education 8 Gr. 10 Gr. Sr. 12 Gr. 14 Gr. Sr. 16 Gr. Sr. Electrical Engineering 2 So. Jr. Sr. 8 So. Jr. Sr. 10 Jr. Sr. 14 Sr. 16 Sr. 18 Jr. Sr. English 4 So. Jr. 6 Jr. Sr. 8 So. Jr. Sr. 10 Jr. Sr. 12 So. Jr. 16 Jr. Sr. Gr. 18 Jr. Sr. Gr. 24 Jr. Sr. Gr. 26 So. Jr. Sr. 28 Jr. Sr. 38 Jr. Sr. 44 Gr. Sr. French 2 Fr. So. Jr. Sr. 4 Fr. So. Jr. Sr. 6 Fr. So. Jr. Sr. 8 Fr. So. Jr. Sr. 10 So. Jr. Sr. 12 So. Jr. Sr. 24 So. Jr. Sr. Geology 2 Fr. So. Jr. Sr. 8 So. Jr. Sr. 10 So. Jr. Sr. 12 Gr. Sr. 16 So. Jr. Sr.

German 2 Fr. So. Jr. Sr. 4 Fr. So. Jr. Sr. 6 Fr. So. Jr. Sr. 8 Fr. So. Jr. Sr. 10 Fr. So. Jr. Sr. 14 So. Jr. Sr. 18 So. Jr. Sr. 28 So. Jr. Sr. 34 Gr. Sr. 36 Gr. Sr. 42 Gr. Greek B Fr. So. Jr. Sr. 2 Fr. So. Jr. Sr. 4 So. Jr. Sr. 6 Jr. Sr. 9 Jr. Sr. 12 So. Jr. Sr. 18 Gr. Sr. History 6 Jr. Sr. Gr. 8 So. Jr. Sr. Gr. 12 Gr. Sr. Jr. 18 Gr. Sr. 20 Jr. Sr. Gr. 22 So. Jr. Sr. Gr. Italian 18 So. Jr. Sr. 20 Jr. Sr. Gr. Latin 2 Fr. So. Jr. Sr. 4 So. Jr. Sr. 6 Jr. Sr. 10 Jr. Sr. Gr. 12 So. Jr. Sr. 14 So. Jr. Sr. 18 Gr.

Mathematics 1 Fr. So. Jr. Sr. 3 Fr. So. Jr. Sr. 6 Fr. So. Jr. Sr. 8 So. Jr. Sr. 12 Jr. Sr. 16 Fr. So. Jr. Sr. 18 Fr. So. Jr. Sr. 20 So. Jr. Sr. 22 Gr. Sr. Jr. 30 Jr. Sr. Gr. 42 So. Jr. Sr. Mechanical Drawing 2 Fr. So. Jr. Sr. 8 Fr. So. Jr. Sr. Mechanical Engineering 6 So. Jr. Sr. 7 So. Jr. Sr. 8 So. Jr. Sr. 10 Jr. Sr. 12 Sr. 14 Jr. Sr. 16 So. Jr. Sr. 18 So. Jr. Sr. 20 Jr. Sr. 22 Sr. 24 Sr. Mechanics 2 Jr. Sr. 4 Sr. 6 Sr. Gr. Music 2 So. Jr. Sr. Philosophy 2 So. Jr. 4 So. Jr. Sr. 6 Jr. Sr. Gr. 8 Jr. Sr. Gr.

Philosophy 10 So. Jr. Sr. 12 Jr. Sr. Gr. 14 Jr. Sr. Gr. 18 Sr. Gr. 20 Sr. Gr. 22 Sr. Gr. 30 Jr. Sr. Gr. **Physics** 2 Fr. So. Jr. Sr. 4 So. Jr. Sr. 6 So. Jr. Sr. 8 Sr. Gr. 10 Gr. Sr. 12 Jr. Sr. Gr. 14 Sr. Gr. 16 Jr. Sr. Gr. 22 Jr. Sr. 24 Jr. Sr. Gr. 26 Jr. Sr. Gr. **Political** Science 4 Jr. Sr. 6 Jr. Sr. Gr. 8 Sr. Gr. 10 Sr. Gr. 14 Gr. Sr. Sanskrit 6 Jr. Sr. Gr. Social Science 1 So. Jr. Sr. 4 Jr. Sr. Gr. 8 Jr. Sr. Gr. 14 Gr. Sr. Jr. 16 Jr. Sr. Gr. Spanish 16 So. Jr. Sr. 22 Jr. Sr.

RELIGIOUS EDUCATION

COURSES arranged for the training of directors of Religious Education in churches and allied organizations, lay assistants of pastors, teachers of the Bible, and other leaders in religious work.

The growing demand for trained leaders in the work of religious education has led Brown University to arrange a special two-year course of study designed to meet the needs of mature men and women who may not be able to undertake a full degree course. Such persons will be received as special students in the University, provided their previous training has fitted them to pursue the various courses outlined below. On the successful completion of the two-year course a certificate will be awarded by the University. Those who are engaged in other occupations for a portion of their time may take a part of the work each year, completing the entire course in a longer period than two years. Regular undergraduate and graduate students may elect these courses.

FIRST YEAR

The English Bible as Literature. Biblical Literature and History 19, 20.

Biblical Seminary (subject for 1915–16: Messianic Prophecy; subject for 1916–17: Sunday-school Organization and Instruction). Biblical Literature and History 21, 22.

Outlines of Economics. Economics 1.

Principles or History of Education. Education 1 or 2.

History of Christianity. History 3, 4.

Outlines of Social or Political Science. Social Science 1, or Political Science 1.

Training Course for Religious Service. Special course, not counted toward a degree.

SECOND YEAR

Biblical History. Biblical Literature and History 15, 16.
Psychology of Education. Education 3.
Ethics. Philosophy 4.
Philosophy of Religion. Philosophy 9.

History of Religion. Biblical Literature 30, Philosophy 30.

Social Problems, Movements, and Agencies. Social Science 3, 4.

Social Investigation and Training or Social Psychology and an elective. Social Science 13, 14, or 16.

The above course is not intended to be absolutely fixed; substitutions may be made to meet individual needs and, in some cases, the courses prescribed will be interchanged between the two years.

The University has made definite arrangements with the pastors of the First Baptist, Central Congregational, Grace Episcopal, and Mathewson Street Methodist churches, and with the secretaries of the Providence Christian Associations, the Rhode Island Sunday School Association, and the Society for Organizing Charity for coöperation in the practical training of students in religious and social service. To meet the needs of individual students, similar arrangements may be made with other leading churches and associations.

For further information, see the special pamphlet on "Courses in Religious Education."

LIBRARIES, LABORATORIES, AND MUSEUMS

LIBRARIES

THE libraries of the University contain two hundred and thirty thousand volumes. They comprise the UNIVERSITY LIBRARY, which occupies the John Hay Library Building; the JOHN CARTER BROWN LIBRARY, also with its own building; and the DEPARTMENT LIBRARIES, in the various seminary rooms and laboratories.

THE UNIVERSITY LIBRARY

HARRY LYMAN KOOPMAN, A.M., LITT.D., Librarian

THE MAIN LIBRARY is constantly increased with reference to the different courses of study, while at the same time there is kept in view the development of a library of general culture. It includes seven special libraries. The first is the Harris Collection of American Poetry, founded by Albert G. Greene, of the class of 1820, extended by C. Fiske Harris, and bequeathed to the University by the Hon. Henry B. Anthony, of the class of 1833, which numbers over twenty-one thousand volumes, being the largest collection in the world devoted to the subject, and is rapidly growing; a fund of \$5000 given by Samuel C. Eastman, of the class of 1857, in memory of the founder of the collection, provides for its regular increase. The second is the Rider Collection of Rhode Island History, formed by Sidney S. Rider and presented to the University by Marsden J. Perry, a collection remarkable for the extent and rarity of its manuscript and printed material bearing on the history of the state. The third is the Wheaton Collection of International Law, given by William V. Kellen, of the class of 1872, in honor of Henry Wheaton, of the class of 1802. This collection already numbers over sixteen hundred volumes. The fourth is the George Earl Church Collection, the bequest of Colonel Church, consisting of thirty-five hundred volumes, many of them of great rarity, on the geography, history, and development of South America. The fifth is the Corthell Engineering Library, containing seven thousand volumes and pamphlets. This collection is particularly rich in works on river and harbor engineering. A fund of \$5000 given with the collection by the founder, Elmer L. Corthell, of the class of 1867, provides for its increase. The sixth is the Chambers Dante Collection, containing eleven hundred volumes besides many rare pamphlets, given by Henry D. Sharpe, of the class of 1894. The seventh is the private library of the late Professor Lester F. Ward, numbering one thou-

sand volumes relating especially to sociology and paleobotany. It was given by his family.

The reading room contains the most important reference books, the books reserved by the departments for class use, and the latest numbers of the standard periodicals, American and foreign. On the floor of the stack which opens off the reading room has been placed a special collection known as the STUDENTS' LIBRARY, which consists of some seventeen thousand volumes selected for the use of undergraduates. To this floor all students have free access. The other floors of the stack are open regularly to graduate students, and to undergraduates by special permission. On the top floor of the building is a large exhibition room, open to the public, in which are displayed books and paintings and other objects of artistic, bibliographic, or historic interest.

The library funds amount to \$111,689,67. Of this sum ten thousand dollars constitutes the Gammell Fund for the purchase of books relating to the history of the United States; ten thousand dollars, the Olney Fund for the purchase of plants and botanical books; ten thousand dollars, the Diman Memorial Fund for the purchase of books on medieval and modern history; and ten thousand dollars, the Banigan Fund for the purchase of books on medieval and church history. The remainder includes several smaller special funds and the Library Fund proper.

The following persons are entitled to the use of the library without expense, —the members of the Corporation and Faculty; other college officers; graduates residing in the state of Rhode Island; donors to the funds of the University to the amount of five hundred dollars, residing in the state of Rhode Island; graduate and undergraduate students; and any other persons to whom the Corporation or the Library Committee may from time to time grant the privilege.

The library is open during term time from 8.30 a.m. to 10 p.m. on week days, and from 2 to 10 p.m. on Sundays; during vacations on week days, from 9 a.m. to 5 p.m.

THE JOHN CARTER BROWN LIBRARY CHAMPLIN BURRAGE, LITT.B., A.M., Librarian

THE JOIN CARTER BROWN LIBRARY, with the building erected for its use, was given to the University by the trustees under the provisions of the will of the late John Nicholas Brown, of the class of 1885. This collection, now known as the most valuable library of Americana in the United States, was begun by John Carter Brown, of the class of 1816, and after his death was enlarged by his widow and by his sons, John Nicholas and Harold Brown. It possesses more than twenty thousand volumes in print and in manuscript relating to North and South America during the Colonial period, including rare and unique maps. The library may be used by properly qualified students or investigators upon application to the librarian. A personal letter to the librarian or a letter

LIBRARIES, LABORATORIES, AND MUSEUMS

from some officer of a University or College is an acceptable form of introduction. In the main hall of the building are exhibited books, engravings, and manuscripts belonging to the collection. The library is open from 9 a.m. to 5 p.m. on week days, except on Saturdays in vacation, when it closes at 12 o'clock.

DEPARTMENT LIBRARIES

THE GERMANIC DEPARTMENT LIBRARY comprises over eight thousand carefully selected volumes. The nucleus was purchased in Germany by the late Professor Alonzo Williams in the name of the principal donor, the Hon. Hezekiah Conant. It has since been augmented through the yearly appropriation granted by the University, and by the generosity of Mr. Samuel Morris Conant of Pawtucket and other friends of the department, including German citizens of Providence. The library contains editions of all the important writers of German literature; a large collection of works on Germanic philology; the leading German literary and philological periodicals; many works upon German history, the history of German literature, and German law, art, paleography, and geography. It is especially rich in works of the Middle High German period, in Goethe and Schiller literature, and in literature of the nineteenth century. It possesses several hundred photographs of masterpieces of German painting and architecture, and characteristic views of German cities and landscape. There are many lantern-slides, engravings, and bronzes used to illustrate the subjects taught. The rooms, Sayles 6 and 7, are open from 9.20 a.m. to 12.30 p.m., and from 2 to 6 p.m.

THE ENGLISH DEPARTMENT LIBRARY comprises about three thousand volumes, of which more than twenty-seven hundred were from the private library of the late Hammond Lamont, Professor of Rhetoric in Brown University from 1895 to 1900. These were presented to the University in his memory, by the classes of 1899 and 1900. The collection is especially rich in works on the drama and in prose fiction of the eighteenth century. The library is contained in the rooms of the department, in the John Hay Library.

THE LIBRARIES OF THE DEPARTMENTS OF GREEK AND LATIN constitute the Albert Harkness Classical Seminary, named in honor of its founder, the late Professor Albert Harkness. It consists of fifteen hundred volumes, purchased with funds contributed by friends of the University interested in classical studies, and contains the most important collections of Greek and Roman authors, besides commentaries, reference books, and similar aids. The room, Sayles 8, is open from 9.20 a.m. to 10 p.m.

THE ROMANCE DEPARTMENT LIBRARY consists of a collection of a thousand volumes for the use of advanced students in the Romance languages. The room, Sayles 4, is open daily.

THE BIBLICAL DEPARTMENT LIBRARY consists of a reference collection of fifteen hundred volumes, including a valuable collection of Semitic books presented by Mr. Jacob Shartenberg of Pawtucket. Through the gift of Mr. William Gammell important books for the use of advanced students have recently been added. A number of Semitic, Biblical, and general religious journals are kept on file. The room, Sayles 3, is open from 9.20 a.m. to 12 m., from 2 to 5 p.m., and from 7 to 9 p.m., except Wednesday and Saturday afternoons and Saturday evenings.

THE BIOLOGICAL DEPARTMENT LIBRARY is a collection of about two thousand two hundred volumes and fifteen hundred pamphlets, to which additions are constantly made. More than fifty current periodicals bearing upon the work of the department are regularly received. The rooms, in the Dr. Oliver Henry Arnold Biological Laboratory, are open from 9.20 a.m. to 5 p.m.

THE EDUCATIONAL DEPARTMENT LIBRARY contains more than two thousand volumes, chiefly text-books of recent publication. It occupies the seminary room of the department, in the John Hay Library, and is open to all students interested in education, and to teachers and friends of education in the city and state.

THE LIBRARY OF THE DEPARTMENT OF ECONOMICS comprises about fifteen thousand volumes and twenty thousand pamphlets, to which additions are constantly made, and receives regularly about one hundred and twenty-five periodicals and papers bearing upon the work of the department. The rooms are on the first floor of the old library building, and are open from 9 a.m. to 1 p.m. and from 2.30 to 5.30 p.m., except Saturdays, when the hours are from 9 a.m. to 1 p.m.

THE BOTANICAL DEPARTMENT LIBRARY consists of about fifteen hundred bound volumes, several thousand pamphlets, and the more important current periodicals. These books have been selected from the large number in the main library as the ones most likely to be in demand by students working in the laboratory, and by visiting botanists working in the Herbarium. When not in use at the department, or on reserve at the department or the main library, any of these books may be borrowed in the usual manner by applying at the University Library. The rooms of the department are in Maxcy Hall.

THE LIBRARY OF THE DEPARTMENT OF PHYSICS is provided with files of the Fortschritte der Physik, Annalen der Physik, Philosophical Magazine, Journal de Physique, Radium, Beiblätter der Physik, Physical Review, Science Abstracts, Physikalische Zeitschrift, Nature, and other magazines, together with a rich collection of the standard works and monographs in all departments of Physics and Electrical Engineering, and also the collected works of great authors, physical tables, etc. The room, in Wilson Hall, is open daily.

LIBRARIES, LABORATORIES, AND MUSEUMS

THE MATHEMATICAL DEPARTMENT LIBRARY comprises more than six hundred and fifty bound volumes of mathematical journals and more than thirteen hundred other books. Special effort has been made to have the best books in all branches of pure Mathematics. The library has complete sets of the following journals : Acta Mathematica ; American Journal of Mathematics ; Analyst ; Annaes Scientificos da Academia Polytechnica do Porto ; Annals of Mathematics; Bulletin of the American Mathematical Society; Bulletin des Sciences Mathématiques; International Catalogue of Scientific Literature, A, Mathematics ; Journal de Mathématiques pures et appliquées (Liouville); Journal für die reine und angewandte Mathematik (Crelle); Mathematical Monthly (Runkle); Mathematical Questions and Solutions from the Educational Times; Mathematische Annalen; Proceedings of the London Mathematical Society; Transactions of the American Mathematical Society. In addition to the above, the current numbers of twenty-one other periodicals are available for students: according to the country of publication there are six German, five American, four French, two Belgian, and one each from England, Italy, India, and Switzerland. The library has also Encyclopédie des Sciences Mathématiques, Répertoire Bibliographique des Sciences Mathématiques, and a complete dictionary card catalogue of the mathematical works in all the libraries of the University. It is desired that the library shall be used freely by the students; applications should be made to the librarian, Professor H. P. Manning. The library room is Wilson 28.

THE LIBRARIES OF THE DEPARTMENTS OF CIVIL ENGINEERING, MECHANICAL ENGINEERING, MECHANICS AND MECHANICAL DRAWING are grouped together on the third floor of the Engineering Building. They form an excellent working library of about twenty-eight hundred volumes, including complete sets of many periodicals. All the important engineering periodicals are regularly received. To these should be added the resources of the Corthell Library already described.

THE LIBRARY OF THE DEPARTMENT OF GEOLOGY CONSISTS of more than three thousand volumes of general reference works in Geology and Geography, together with several hundred charts of the Coast and Geodetic, Great Lakes, and Mississippi River Commission surveys, some two thousand maps of the United States Geological Survey, foreign topographic maps, and geologic atlases. The more important current geologic, geographic, and mining periodicals are regularly received. The library is contained in Rhode Island Hall, and is open from 9 a.m. to 10 p.m.

OTHER DEPARTMENT LIBRARIES. There are several other special collections of books for seminary and advanced laboratory work. The most important of these belong to the departments of Astronomy, Chemistry, History, Philosophy, and Social and Political Science.

THE WOMEN'S COLLEGE LIBRARY AND READING ROOM occupy two rooms in Pembroke Hall. The library comprises more than thirty-three hundred volumes of standard literature, chosen with special regard to the courses offered, thus forming for students of the Women's College a convenient and valuable adjunct to the University Library. An experienced librarian is in charge.

OTHER PROVIDENCE LIBRARIES

There are also at the service of the students of the University the seven collections of books named below. These comprise, with the University Library, over half a million volumes, exclusive of pamphlets and manuscripts.

THE PROVIDENCE PUBLIC LIBRARY offers to all students of Brown University, upon the same conditions as to other residents of the city, the use of its carefully chosen collection, which comprises more than one hundred and seventynine thousand volumes. Among its special features may be mentioned the Harris Collection on Slavery and the Civil War; the St. Bride Collection of Books on Printing; the "Standard Library" of best literature ; and the Reference Department. About one thousand periodicals, serials, and annuals are currently received. In the Foreign Department there are brought together more than a dozen of the modern languages and literatures. The Educational Department, occupying two rooms, comprises several different collections, placed there in order to facilitate their use by teachers and others. The Information Desk may be consulted with respect to books relating to any of the departments of University study, and for lists of references in connection with any of the special topics under consideration. The library is situated at the corner of Washington and Greene Streets. Its principal rooms are open regularly from 9 a.m. to 9 p.m.; on Sundays, from 2 to 9 p.m.

THE LIBRARY OF THE PROVIDENCE ATHENAEUM is a collection of general literature numbering eighty-four thousand volumes. The reading room receives over two hundred papers and magazines, including New York, Boston, and Providence daily papers, and American, English, German, French, and Italian weeklies, magazines, and reviews. In bound sets of periodicals and in books on art this library is especially rich. Professors or teachers may become annual subscribers on the payment of four dollars in advance, and any student of Brown University may become a subscriber for three months on the payment of one dollar. All such subscribers have the right to take out books and use the rooms of the library in the same manner as shareholders, except that the rights of subscribers who pay less than at the regular rate of twelve dollars per annum are personal only and do not extend to the families of such subscribers. The Athenaeum is open on week days, from 9 a.m. to 9 p.m.

THE LIBRARY OF THE RHODE ISLAND HISTORICAL SOCIETY is situated on Waterman Street, next to the old University Library Building. The library of the

LIBRARIES, LABORATORIES, AND MUSEUMS

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society comprises thirty thousand bound volumes and fifty thousand unbound volumes and pamphlets. Through the courtesy of the society the collection is made accessible, free of charge, to members of the University. It offers special facilities for thorough research not only in all subjects relating to the history of Rhode Island, but also in genealogy, biography, general American history, early American travel, and the drama. The library is open on week days, from 9 a.m. to 5 p.m.

THE ANNMARY BROWN MEMORIAL, situated on Brown Street south of the University grounds, was founded by General Rush C. Hawkins, of New York, in memory of his wife, Annmary Brown, of Providence, a granddaughter of Nicholas Brown, after whom the University was named. The building contains a collection -one of the most complete in the world -of books from the first European presses. It contains also a notable collection of paintings by old masters and modern painters. The collection of books was made for the double purpose of showing the progress of printing through the first half century of its existence, from about 1450 to 1500, and of honoring the memory of John Gutenberg, the inventor of printing with movable metal types. It includes two hundred and twenty-five books from one hundred and thirty of the two hundred and thirty-eight first presses set up in the cities, villages, and monasteries in Europe before the year 1501, and is fairly representative of countries. Among the books are many rare and interesting volumes. Incidentally there came into the collection many notable volumes adorned with woodcuts which show the earliest use of the woodcutter's art for book illustration. In connection with the Memorial, General Hawkins has provided for two lectures on "The function of the arts in civilization," to be given annually in Sayles Hall, on March 9 and October 28, the birthdays of his wife and her sister, Carrie Mathilde Brown Bainotti.

THE LIBRABY OF THE RHODE ISLAND MEDICAL SOCIETY occupies a new building on Francis Street, opposite the State House. It comprises about twenty-five thousand volumes upon medical science, including anatomy, physiology, public hygiene, and other subjects the study of which is pursued in the University. There is also a good file of current medical periodicals. Upon application students can, without cost, enjoy the privileges here offered. The library is open on week days, from 9 a.m. to 5.30 p.m.; except on Saturdays, when it closes at 12 m.

THE STATE LAW LIBRARY is a collection of forty thousand volumes. It is accessible to all students, and for certain lines of University study is invaluable. University students are requested to introduce themselves at the desk. The rooms of the library are in the Providence County Court House, at the corner of Benefit and College Streets, and are open on week days, from 9 a.m. to 5 p.m.; except on Saturdays, when they close at 3 p.m.

THE STATE LIBRARY, located in the State House, contains a large collection of official documents of the United States and of the several states, a complete collection of the United States Patent Office Specifications, and general works pertaining to history and political science. The Legislative Reference Bureau conducted by the State Library directs the work of students who are investigating topics in comparative legislation. The library is open to the public on week days, from 9 a, m. to 4 p.m.; except on Saturdays, when it closes at 12 m.

LABORATORIES

THE LADD ASTRONOMICAL OBSERVATORY is equipped with a Saegmuller-Brashear equatorial of twelve inches aperture, which is supplied with a filar micrometer, two spectroscopes, a photographic plate carrier, and other attachments; two equatorials, tripod mounted, each of four inches aperture; four transit instruments, two of which can be used as zenith telescopes; a chronograph; three astronomical clocks; several sextants and chronometers; recording meteorological apparatus; and various minor instruments. The equipment is available for illustrating the general courses in astronomy and for practical use in the applied courses. During the college year the Observatory is open to the public on one or more evenings a month.

The Observatory furnishes constant time-signals to the Fire Department of the City of Providence, and to the Rhode Island Electric Protective Company, which distributes them to its patrons. Routine observations for determining clock errors and night cloudiness are made throughout the year. Observations of sunspots and other solar phenomena, and special observations of various kinds are made, as opportunity offers.

THE PHYSICAL LABORATORY is in Wilson Hall, which was specially designed and constructed for the Department of Physics. Six laboratory rooms are available for experimental study. Brick piers support the instruments requiring great steadiness. Several rooms on the ground floor are devoted to electrical engineering. The Laboratory is supplied with apparatus both experimental and demonstrative, and frequent additions are made. The department has a large collection of historical and other photographs, lantern-slides, and cage models illustrating the propositions in pure and applied physics.

THE CHEMICAL LABORATORIES are in Rogers Hall, which was erected expressly for the Department of Chemistry. The inorganic laboratory is supplied with tables and lockers furnishing accommodations for about two hundred and fifty students working by detachments. The organic laboratory is fitted with tables for about fifty students. Each table has arrangements for gas, highpressure water-supply, etc.

LIBRARIES, LABORATORIES, AND MUSEUMS

THE GEOLOGICAL LABORATORIES AND MUSEUM are in Rhode Island Hall. They are equipped with the requisite apparatus and with a detailed series of photographs, maps, models, and illustrative specimens for work in general geology, geography, mineralogy, and petrography. The region in which the University is situated provides unusual opportunities in a small compass for the study of both simple and complex problems in field research in petrographic, metamorphic, paleontologic, and stratigraphic geology.

THE BIOLOGICAL LABORATORIES for subjects other than Botany are in the Dr. Oliver Henry Arnold Biological Laboratory, erected in 1915. In this building there are separate laboratories for General Biology, Comparative Anatomy, Embryology and Histology, Physiology and Bacteriology, several special laboratories and research rooms, and the Biological Departmental Library. On account of close relations with the Providence Health Department, the Rhode Island Hospital, the Providence City Hospital, and the Rhode Island Shellfish Commission, and on account of the location of Providence at the head of Narragansett Bay, the laboratory is peculiarly favored in the matter of material for study. One of the officers of the Biological Department is Director of the Woods Hole Station of the United States Bureau of Fisheries; another is Assistant Director of the Biological Laboratory at Cold Spring Harbor. Thereby a valuable relation is maintained with these institutions.

THE BOTANICAL LABORATORIES are in Maxcy Hall, on the first floor. There is also a greenhouse for experimental work adjoining the building. The larger laboratory is used for the elementary courses, and the smaller for advanced work. They are equipped with the necessary simple and compound microscopes, paraffin baths, microtomes, freezing apparatus, incubator, sterilizer, etc., and a considerable amount of plant material preserved in liquids, as well as dried. The Herbarium, in an adjoining room, is accessible to advanced students in forestry and medicinal and systematic botany.

The Botanical Garden is located about one mile north of the University. The main entrance is at the corner of Morris Avenue and Session Street. A part of the Garden is being developed into an arboretum. Another section is utilized for instruction in the growing of various kinds of coniferous and hardwood trees from seed and experimental work on certain diseases peculiar to these trees.

THE PSYCHOLOGICAL LABORATORY shares with the rest of the Philosophical Department the first floor of Rhode Island Hall. Besides lecture rooms, a department library and seminary room, and offices, there are five rooms devoted to psychological purposes. The equipment suffices for class demonstrations, for the more usual forms of psychological investigation and training in methods, and for many forms of original research.

THE MECHANICAL ENGINEERING LABORATORIES and drafting rooms are situated in the Engineering Building. The laboratories are equipped with apparatus for the work of the courses in strength of materials, steam, gas, and hydraulic engineering, and metallography.

The materials laboratory contains 400,000-pound and 50,000-pound Riehle universal testing machines; a 50,000-inch-pound Olsen torsion testing machine; complete apparatus for making physical tests on cements and concretes, including two Riehlé cement testing machines; and a collection of extensometers and other small apparatus necessary to the work of the laboratory.

The steam and gas engineering laboratory contains a 10-inch and 18-inch by 30-inch cross-compound condensing Harris-Corliss engine equipped with a Wheeler surface condenser and the necessary pumps, a 20-kilowatt De-Laval turbo-generator set, a vertical Sturtevant steam engine direct connected to a 5-kilowatt generator, a 40-horse-power 4-cylinder Garford automobile engine, a 24-horse-power 3-cylinder Chase marine engine, an 8-horse-power Fairbanks horizontal gas engine, two air compressors, injectors, and miscellaneous smaller apparatus. The equipment also includes a manograph, indicators, transmission dynamometers, and other apparatus necessary for making complete tests. The central heating plant of the University, containing return tubular boilers of 450 boiler horse-power capacity and a 110-horse-power Babcock and Wilcox water tube boiler, is used for tests and investigations. For such tests the department possesses apparatus for analyzing flue gas, pyrometers, steam calorimeters, etc.

The hydraulic laboratory contains a 1000-gallon Fales & Jenks rotary fire pump driven by the Harris-Corliss engine, a D'Auria steam pump, pulsometer, Pelton wheel, Humphrey inward flow turbine, hydraulic ram, Venturi meters of different sizes, weirs and measuring tanks, together with the necessary auxiliary apparatus.

The equipment further includes an Emerson bomb calorimeter, jar mill, and complete apparatus for making proximate analyses of fuels; Macbeth illuminometer; equipment for testing lubricating and fuel oils, including Tagliabue viscosimeter; a complete metallurgical microscope; and polishing and photographic apparatus for investigating the nature and structures of alloys.

THE MECHANICAL ENGINEERING SHOPS are situated in Rogers Hall. They are cquipped with all the necessary tools for instruction in wood-working and metal-working.

The wood-working shops contain speed lathes, planer, circular saw, band saw, vertical drill, trimmers, a large collection of bench tools, etc.

The metal-working shop is equipped with engine lathes of various patterns, shaper, planer, two universal milling machines, a sensitive drill, a large drill press, surface grinder, cylindrical grinder, disc grinder, universal tool grinder, twist drill grinder, a wet and dry tool grinder, power saw, surface plates, and a first class tool-room equipment. A forge and gas furnaces are provided for exercise in tool dressing and in hardening, tempering, and heat-treating steel.

THE MECHANICAL DRAWING ROOMS, accommodating two hundred and fifty students, are on the third floor of the Engineering Building. There is a photographic dark room, with apparatus for preparing blue-prints.

THE CIVIL ENGINEERING DRAFTING ROOMS, instrument room, and offices are located on the second floor of the Engineering Building. The drafting rooms have desks for about one hundred students. The instrument room contains a complete equipment of apparatus necessary for the field work in surveying and railroad engineering. For the work in structural engineering the department has a collection of over four hundred photographs, five hundred large blue-prints of bridges, buildings, roof trusses, etc., and a set of steel structural shapes and iron beam-hangers. The department has also a collection of the various rocks used as road material, a Bausch and Lomb petrographic microscope, a set of the rail sections of the American Society of Civil Engineers, and models of railway appliances and harbor improvements.

MUSEUMS

THE HERBARIUM is in Maxcy Hall. The general collection contains upwards of seventy-five thousand specimens from all parts of the world, but mainly from America. The cryptogams occupy ten cases and the seed-plants thirty. All of these are mounted and systematically arranged according to Engler and Prantl's Natürliche Pfanzenfamilien. There are also several cases of unmounted specimens and duplicates. The genus Carex is particularly well represented, as it was the object of much special study by Colonel S. T. Olney, the founder of the Herbarium.

THE MUSEUM OF FINE ARTS occupies the first floor of Manning Hall. It contains plaster casts, chiefly from works of classical sculpture, which are of great value in illustrating ancient history, biography, and art. It also contains some original specimens of Etruscan, Graeco-Roman, and Oriental sculpture; and the George W. Harris bequest of pictures by old masters of the Italian and North European schools, and of works in marble, china, glass, bronze, and silver. Certain works in silver and china, owned by the University through the George W. Harris bequest, are temporarily loaned to the Rhode Island School of Design, and are on exhibition at the museum of that school.

The University possesses a large collection of valuable portraits, which are hung in Sayles Memorial Hall. It now includes portraits of the University's principal benefactors, of many of its former officers, and of other distinguished

persons, Americans and foreigners. The history of Rhode Island is especially well represented.

A large painting by Domenico Tintoretto, representing Moses Smiting the Rock, the gift of Mrs. Charles Bradley and the late George L. Bradley, Esq., is in the Museum of Fine Arts. Some paintings, selected from the collections of the University, are exhibited in the gallery on the top floor of the John Hay Library.

A series of fourteen oil paintings illustrating early American history, by Frank O. Small, presented to the Department of History by Samuel M. Conant, is hung in the Faculty Room in the Administration Building.

All the collections are open to the public.

EXTENSION COURSES

THE University offers during each year two series of extension courses, given at the University and open to all who desire to enter. Each course consists of ten lectures or other exercises, and, while not identical with the corresponding course offered to regular students, is equivalent in the general character and amount of the work required. Persons entering these courses may at their option attend merely as listeners, or may do the prescribed work and take the examination given at the end of the course.

On the completion of each course, certificates are issued to those who have done the work assigned and passed the examination. Each extension course of ten lectures or other exercises is regarded by the University as the equivalent of a regular one-hour course for one semester, and is accepted by the University in fulfilment of the requirements for the degree of A.B. and Ph.B. subject to such regulations respecting entrance requirements and prescribed courses as govern regularly enrolled candidates for the respective degrees. Regularly enrolled undergraduates, however, are not given credit for extension courses. Those who wish a certificate or university credit should announce their intention at the time of registration; all such announcements must be made not later than the third lecture of the course.

Applications for admission to extension courses should be sent to Professor Walter Ballou Jacobs, Director of University Extension, John Hay Library, Brown University. The application should give the full name and the address of the applicant, the course or courses in which registration is desired, and, if the applicant is a teacher, the present educational position. On receipt of the fee, a card of admission is issued which must be shown at the lectures in each course. Classes are not formed in any course for which fewer than twenty-five apply. The fee for each course is three dollars and a half, payable in advance. Students desiring a certificate or university credit pay an additional fee of one dollar and a half; this fee is due on registration and must be paid not later than the third lecture of the course. Checks should be made payable to Brown University. They should be sent with the application if possible; if not, payment may be made at the Registrar's office, Administration Building.

The courses offered during the first semester of the year 1914-15 were: Modern Chemical Industries, Professor APPLETON. The Story in Medieval Times, Professor BENEDICT. Problems of Present Day Education, Professor COLVIN. German Conversation and Reading. Professor CROWELL. Government of American Cities, Professor DUNNING. Elementary Spanish, Professor JOHNSON. Growth of the United States through War, Professor MACDONALD. The Song and Song Composers, Professor MACDOUGALL.

Problems of Production and Distribution of Wealth, Professor MOTLEY. Elementary Electrical Engineering, Professor WATSON.

The courses offered during the second semester of the year 1914-15 were :

Prevention of Crime in Rhode Island, Professor BRISTOL.

Historical Background of the War, Professor Collier.

Changing Aspects of Education, Professor Colvin.

German Conversation, Professor CROWELL.

Elementary Spanish, Professor JOHNSON.

France and Italy as Revealed by the War, Professor LANGDON.

Contemporary American History, Professor MACDONALD.

Mathematics Applied to Engineering, Professor PERKINS.

Practical Electrical Engineering, Professor WATSON.

The New Novel, Mr. FOLLETT.

In Fall River:

The Process and Progress of Learning, Professor JACOBS.

ARRANGEMENTS WITH OTHER INSTITUTIONS

THE RHODE ISLAND SCHOOL OF DESIGN

THE Rhode Island School of Design is an institution of large and increasing importance for the education of artisans and artists in the principles and processes of art, and for the general advancement of education in art by the exhibition of works of art and art studies, and by lectures. Its school buildings and museum are near the University grounds, and its collections are open daily to the public. Through its exhibitions there is opened to students an important means of culture.

The Corporation and Faculty of Brown University have agreed with the authorities of the Rhode Island School of Design upon a plan of coöperation in accordance with which certain courses at this School are open to students of the University and are counted towards a University degree. A description of these courses and a statement of the conditions under which they may be elected will be found in the list of studies given under the Department of Art, on pages 70, 71. Students from the Rhode Island School of Design are admitted to any classes in Brown University for which they are found to be prepared.

THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS

In 1902 a number of the friends of the University, in recognition of the sixtieth anniversary of the graduation of the late Professor Harkness, one of the founders of the American School of Classical Studies at Athens, united in contributing to the School the sum of \$5555, to establish a fund to be known as "The Albert Harkness Fund for the Benefit of Brown University." By the establishment of this fund, the privilege of free tuition in the School is secured for all adequately prepared graduates of the University. Any who desire detailed information regarding the School may obtain it by applying to Professor Poland, Professor Manatt, or Professor Allinson, members of the Managing Committee of the School.

THE NEWTON THEOLOGICAL INSTITUTION

The Newton Theological Institution has entered into an agreement with Brown University whereby certain work done in the University, for which a mark of C has been awarded, or upon which the student passes an examination satisfactory to the Faculty of the Newton Theological Institution, will be credited toward graduation in the Theological course as follows: Biblical Literature and History 1, 2, 3, 4 (132 hours); 11, 12, 13, 14 (108 hours); 15, 16,

17, 18 (112 hours); English 7 (33 hours), — in all, 385 hours. The total number of prescribed hours in the Theological course at the Newton Theological Institution is 1485.

THE TRAINING OF TEACHERS

ARRANGEMENTS WITH THE BOARD OF EDUCATION OF THE STATE OF RHODE ISLAND

THE Board of Education of the State of Rhode Island under act of the Legislature has entered into coöperation with Brown University for the professional instruction of college graduates who desire to become teachers in high schools, principals of high schools or elementary schools, or superintendents, and of those who already hold such positions. For this purpose the state appropriates annually \$5000. A part of this sum is employed in maintaining graduate courses in education. Part is expended in maintaining scholarships covering full tuition for a year of graduate work for the degree of Master of Arts. Holders of these scholarships must make Education their major subject, and their courses must be approved by the Department of Education. Graduate scholarships for professional studies are also granted for less than a full year of work. Appointment to these scholarships is made by the State Board of Education. Candidates must conform to the requirements for graduate students regularly fixed by the University.

ARRANGEMENTS WITH THE CITY OF PROVIDENCE

The School Committee of the City of Providence, by special agreement, appoints a number of student-teachers in the Providence High Schools. Appointments are made from Graduates of Brown University or of other institutions of equal rank, who have pursued undergraduate courses in Education. These student-teachers are of two types. Those of the first type-of whom there are at least four, two of each sex - are occupied in the schools each day for somewhat more than half the usual school session. They receive a salary of five hundred dollars a year from the city. Those of the second type teach and observe about five hours a week. They have considerably more freedom in the choice of subjects and of hours than those of the first type; they receive no remuneration from the city. An unusual opportunity is thus afforded students to gain at the same time a knowledge of the theory of education and experience in the art of teaching. In making appointments to places as regular teachers of the lowest grade in the Providence High Schools, preference is given to those who have successfully completed this course of training as student-teachers. In this respect student-teachers of the second type have the same status before

THE TRAINING OF TEACHERS

the Committee as those of the first type. The practice teaching in the Providence High Schools is done under the following Supervising Teachers:

> Charles E. Dennis, Ph.D., Latin Harriet P. Fuller, A.M., Latin M. Catherine Mahy, A.M., English J. Madison Gathany, A.M., History and Civics Clarence H. Manchester, A.M., English Edith H. Williston, A.M., German Richard O. Dummer, A.M., Physics and Chemistry Alden E. Hodgkins, B.S., Mathematics Harriet W. Blake, A.M., English and History Howard B. Baker, A.B., Mathematics Franklin R. Cushman, A.M., History

In a similar way a number of students are appointed to places in the Providence Grammar Schools. They receive a salary of three hundred and fifty dollars a year from the city. A limited number of Seniors and Graduates who are pursuing courses in Education are allowed to observe and teach in the Grammar Schools of the city in a way similar to that provided for studentteachers of the second type in the High Schools.

STUDENT-TEACHERS AT THE MORRIS HEIGHTS SCHOOL

Student-teachers of the first type are appointed at the Morris Heights School. Such student-teachers are under the supervision of the principal, John Shaw French, Ph.D.

STUDENT-TEACHERS IN PLACES NEAR PROVIDENCE

Student-teachers are also assigned to the high schools in Pawtucket, Cranston, and East Providence. The practice teaching is done under the following Supervising Teachers:

Eddy P. Howard, A.B., English Alfred J. Maryott, A.B., Physics John L. Smith, A.M., Chemistry

PROVISIONS FOR THE PERSONAL WELFARE OF THE STUDENTS

PHYSICAL TRAINING

FOR the physical training of the students excellent opportunities are offered by the Lyman Gymnasium. It is thoroughly equipped with baths, dressing-rooms, bowling alleys, and all kinds of apparatus usually found in modern gymnasiums. Connected with the gymnasium is the Colgate Hoyt Swimming Pool, seventy-five feet in length by twenty-five feet in width, with a capacity of seventy-five thousand gallons. All the gymnasium work is under the supervision of the Professor of Physical Training, who makes a thorough examination and measurement of each student on entrance, and at other times by request. Special cases are referred to Dr. P. P. Chase, the University Physician. Such exercises are prescribed as may be necessary to give health, strength, and symmetrical development. No student is allowed to attempt any feat which is likely to result in injury. From the close of the Thanksgiving recess to the beginning of the spring recess, all first and second year students are required to attend gymnasium exercises three times a week. For other members of the University voluntary classes are provided. The class work consists of setting-up exercises, developing exercises, calisthenics, the use of clubs, dumb-bells, wands, and single sticks, and general athletics. Instruction is also given in swimming, a special effort being made to teach all students to swim. In all the work, the aim is to develop health, strength, and vitality.

All branches of athletics are under the management of the Brown University Athletic Association, and are controlled by a board of undergraduates. The Faculty Committee on Student Organizations has general oversight of the deportment and scholarship of the members of the various teams. Lincoln Field adjoins the gymnasium, and is a convenient place of exercise for the class teams and the students in general. Andrews Field, which is a mile and a half from the University, offers the usual opportunities for all the University teams. The Marston Field House, the gift of Mr. Edgar L. Marston, is fitted with dressing-rooms, lockers, baths, and other accommodations.

MEDICAL CARE

Any student suffering from illness is expected at once to visit or summon the University Physician, Dr. Peter P. Chase. [192 Waterman Street. Office hours, 2 to 4 p.m.; 7 to 8 p.m. Telephone Angell 2487–J.] When called to see students at their rooms, the duty of the University Physician is to make one call for diagnosis and prescription at the expense of the University. For continued attendance, students make their own arrangements with Dr. Chase or some other physician. All office calls are at the expense of students.

The University owns two free beds in the Rhode Island Hospital, to the occupancy of which the President of the University has the right of appointment. The first of these, THE CHARLES SMITH BRADLEY FREE BED, was established in 1872 by the payment to the hospital of four thousand dollars by the late Judge Bradley, a member of the Board of Fellows, thereby endowing a free bed "under the control of the President of Brown University for the time being, for the benefit of any officer or student of that institution who may have occasion for it." The second, THE GEORGE IDE CHACE FREE BED, was established by the payment to the hospital of four thousand dollars by the late Professor George Ide Chace; this foundation gives to the President of the University "the right to nominate and send to said hospital a patient, being a proper subject for treatment in said hospital according to the rules of the institution."

A patient sent to the hospital in accordance with the above arrangements is entitled to occupy a bed in one of the wards, and to receive the usual care, medical, surgical, and other attendance, and medicines and board, free of charge; but if he occupies a separate room and is under the care of an outside physician, he will be expected to pay the hospital from sixteen to twenty-three dollars per week.

STUDENT ADVISERS

As early as possible in the year the members of the Freshman class are divided into small groups, for each of which some member of the Faculty acts as special counselor. In making the assignments, the expressed preference of either student or adviser is followed whenever practicable. One meeting is usually definitely appointed; but the working of the system is entirely informal, and while it is desired that it shall lead to closer personal relations, it fulfils its chief aim if it permits each student to feel that in any emergency of his college life, great or small, he is free to claim the counsel of a mature and interested adviser.

THE BROWN UNION

The chief aim of the Brown Union is to encourage a vigorous and healthy social life in the University, to bring undergraduates, Faculty, and Alumni into closer relation than would otherwise be possible, and to unite under one roof, with competent direction, the various activities of the students. Membership is open to students, Alumni, and Faculty, and includes almost all of the undergraduates. The Board of Management consists of the President of the Union, who must be a member of the Senior class, and four members appointed by the Corporation. The Union occupies Rockefeller Hall, which is also the headquarters of the Brown Christian Association. The building affords attractive offices for the Athletic Board, 'Varsity teams, the musical and dramatic clubs,

the Brunonian, the Daily Herald, and the College Bookstore, rooms of various sizes for student meetings, and the usual conveniences of a social club, including large and handsomely furnished rooms for reading and lounging, an auditorium with well-equipped stage, a dining-hall and lunch-room, billiard room and barber shop. In coöperation with the Christian Association, the Brown Union holds a series of College Nights on Tuesday evenings throughout the year. The programs include readings, musical or dramatic entertainments, and addresses of various sorts. The Secretary and Treasurer, Dana M. Hubbard, '15, gives his whole time to the affairs of the Union.

THE BROWN CHRISTIAN ASSOCIATION

The purpose of this Association is to unite all men who cherish Christian ideals in the service of their fellow men. It welcomes to membership all men who are connected with the University. Among its activities are frequent meetings for the discussion of religious, philanthropic, and educational problems and for devotional purposes; the arrangement of conferences with Vesper preachers; coöperation with the churches in religious and social work. It maintains an Information Bureau at the opening of the college year. The Executive Secretary is William J. Snyder, '16, and the Religious Secretary, Vernon Rice, '16. Their office is Room K, Rockefeller Hall. Other rooms in the same building are specially designated for the various activities of the Association.

RELIGIOUS SERVICES

A chapel service is held in Sayles Hall every week day at 9 a.m. The President usually conducts the exercises. Attendance is required of undergraduates.

During the winter a series of vesper services is held in Sayles Hall on Wednesday afternoons at five o'elock, open both to students and to the public.

DORMITORY ACCOMMODATIONS

IN the University dormitories there are in all one hundred and thirty-two single rooms and thirty-four suites. The rooms in Hope College, University Hall, and Slater Hall are unfurnished. Those in Maxcy Hall and Caswell Hall contain all necessary furniture, occupants providing nothing except bedclothes and towels. A table showing the rent and location of the dormitory rooms is printed in the Appendix. The prices there given include rent, heat, and service for the college year. Lighting is not included; there is a meter for each room, and the occupants are charged for the amount of light used.

Each student renting a room must sign a contract therefor in the form given below, on which surety may be demanded, binding him to pay or cause

UNIVERSITY FEES

to be paid the rent of the room through the entire year. Where two students rent a room together, each must sign a contract for half the room expenses. This obligation is not impaired by the student's removal from the University, whatever the cause of such removal.

The following is a contract between Brown University, party of the first part, and the undersigned, party of the second part. I hereby engage room No. in ; the same not to be occupied by any other person without consent of the party of the first part; and I bind myself to pay or cause to be paid to the Registrar of Brown University the entire rent, including heat and service, amounting to \$ for the college year beginning September, 191

It is a part of this agreement that I shall be held responsible for all damage or defacement of such room or its furniture, ordinary wear excepted; also that disuse of the room by me on account of illness, or in case registration is refused me owing to low standing or bad conduct, does not impair the obligation of this contract.

Signed_

This day of 191.

Not more than two students are allowed regularly to occupy a room or suite. No sub-letting of rooms will be allowed. When the University holds full contracts for a room, the tenant or tenants may admit to the use of the room in the daytime one or two students, but not more than two. The names of any such sub-tenants must be reported to the Registrar as soon as the arrangement for sub-tenancy is made. For each sub-tenant the University makes an extra charge of \$1.50 a semester for service. This sum is paid by the tenantin-chief, if there is but one; if there are two, each pays half.

All rooms not assigned for 1916-17 before May 6, 1916, will be disposed of at a drawing on May 19 at 4.30 p.m. Men intending to enter college in September can arrange to be represented at the drawing by notifying the Registrar.

UNIVERSITY FEES

FEES FOR UNDERGRADUATES. Tuition: \$52.50 a semester; \$105 a year. Incidentals: \$24 a semester; \$48 a year. Matriculation fee (Freshman year only): \$5. Graduation fee (Senior year only): \$5.

The incidental expenses are for the printing of programs, examination papers, and the like, the use of the library and the gymnasium, heat for these buildings and for the recitation rooms, and the wages of servants to care for them.

Special students who are taking courses amounting to less than fifteen hours a week pay in proportion to the actual amount taken.

FEES FOR RESIDENT GRADUATE STUDENTS. Tuition: \$75 a semester; \$150 a year. Graduation fee: for the degree of Master of Arts, \$15; for the degree of Master of Science, \$15; for the degree of Doctor of Philosophy, \$25.

Graduate students who are taking courses amounting to less than fifteen hours a week pay \$15 a semester for each three-hour course.

A candidate in residence for the degree of Master of Arts or Master of Science who has paid full tuition for one year may, if necessary to the attainment of his degree, continue his studies for one year more without additional charge.

A candidate in residence for the degree of Master of Arts, who without remitting his studies becomes a candidate for the degree of Doctor of Philosophy, is credited with whatever tuition he has already paid, in case his previous work is allowed to count toward the higher degree.

A candidate for the degree of Doctor of Philosophy who has paid full tuition for two years may, if necessary to the attainment of his degree, continue his studies for two years more without additional charge.

FEES FOR NON-RESIDENT GRADUATE STUDENTS. Registration fee: \$25. Tuition: \$15 a semester; \$30 a year. Examination fee: \$15.

A non-resident candidate is entitled, upon payment of the registration and tuition fees, to take one three-hour course in residence. For each additional course taken in residence a fee of \$15 a semester is charged.

A non-resident candidate who has paid tuition for two years may, if necessary to the attainment of his degree, continue his studies for one year more without additional charge, except for work taken at the University.

LABORATORY FEES. In addition to the regular fees mentioned above, the following fees are charged for laboratory courses. \$4.50 for each threehour semester course in *Botany*, *Biology*, *Geology*, *Elementary Chemistry*. \$7.50 for each three-hour semester course in *Advanced Chemistry*, *Mechanical Engineering*, *Physics*, *Electrical Engineering*. These fees cover the cost of ordinary supplies; special supplies and breakage are charged extra.

SPECIAL FEES. Candidates for a first degree who do not pay four years full tuition fees must pay for all extra courses counted toward the degree at the rate of \$7.50 per semester for each three-hour course. This amount must be paid at the beginning of the semester preceding the completion of the degree work. This rule does not apply to courses credited from other institutions or taken during the summer.

Candidates for the degree of A.M. or Sc.M. who do not pay full tuition fees for one year, and candidates for the degree of Ph.D. who do not pay full tuition fees for two years, must pay for all extra courses counted toward the degree at the rate of \$7.50 per semester for each three-hour course. This amount must be paid at the beginning of the semester preceding the completion of

UNIVERSITY FEES

the degree work. This rule does not apply to courses credited from other institutions.

PAYMENT OF UNIVERSITY BILLS

Every student, graduate or undergraduate, must pay in advance, at registration for each semester, all charges for tuition and incidentals for such semester.

Students occupying dormitory rooms must also pay at the above time all room charges for the semester.

Students taking laboratory courses must also pay at the above time all laboratory fees for the semester. These fees vary from \$4.50 to \$7.50 for each three-hour laboratory course.

At the beginning of the second semester all students occupying dormitory rooms or taking laboratory courses must, in addition to the payment of the above amounts, make a deposit of \$5 toward charges for light or breakage during that semester.

Freshmen, candidates for degrees, must pay at registration for the first semester a matriculation fee of \$5.

Candidates for graduation in any year must pay all graduation fees at the beginning of the second semester of that year.

ESTIMATE OF ANNUAL EXPENSES

The following is an approximate estimate of the annual expenses of a student who occupies (with a room-mate) a dormitory room. It does not include the matriculation fee of \$5 in the first year, the graduation fee of \$8 in the fourth year, nor outlay for clothes and traveling or other strictly personal expenses.

	Lowest	Moderate	Very Liberal
Tuition	\$105.00	\$105.00	\$105.00
Incidentals	48.00	48.00	48.00
Room rent, including heat and service	53.50	75.00	187.50
Board (36 weeks)	160.00	200.00	250.00
Books and laboratory expenses	15.00	25.00	40.00
Total	\$381.50	\$453.00	\$630.50

THE BROWN UNION conducts a restaurant for its members in Rockefeller Hall; at present the price is \$5.50 a week.

Students who need to earn money find in the city numerous opportunities for doing so by giving private instruction, by teaching in evening schools, and in various other ways. See page 186.

FINANCIAL AID TO STUDENTS

THE aid which Brown University gives to students of limited means is granted under the following conditions: the recipient must be a candidate for a degree, having been fully admitted to the Freshman class or to advanced standing; he must be of good moral character and maintain a creditable standing in his studies: a grade of C is expected; the aid will be withdrawn if the student is placed under college discipline or fails to maintain good scholarship; he must be in need of the financial assistance desired. The aid rendered is of three kinds: awards from fellowship, scholarship, and aid funds; loans; payment in cash or in credit on term bills for services rendered.

The administration of the scholarship and aid funds is in the hands of a committee of the Faculty, annually appointed by the Corporation. Applications for scholarships for a given academic year should be filed with the Secretary of the Committee on Scholarships as soon as possible after May 1. The Committee will take action early in June on all applications received before June 1. Action on late applications is generally taken as soon as all the requisite information is received. The President has charge of the administration of fellowships, loan funds, and the service system.

FELLOWSHIP, SCHOLARSHIP, AND AID FUNDS

THE GRAND ARMY OF THE REPUBLIC FELLOWSHIP. The income of a fund of ten thousand dollars given by the Grand Army of the Republic, Department of Rhode Island, is annually awarded to a graduate of Brown University, of acknowledged excellence in scholarship and character. The recipient must be enrolled as a candidate for the degree of Doctor of Philosophy or have obtained that degree, must reside at Brown University, and must devote himself exclusively to advanced liberal study. Holders of the fellowship are appointed by the President of the University, subject to the approval of the Board of Fellows. Appointments to the fellowship are regularly made for one year, but incumbents of special diligence or ability may be reappointed. Descendants of Union Veterans of the Civil War are always to be preferred when the other qualifications of candidates are equal. The political or religious preferences of candidates cannot be taken into consideration. The President is authorized to make such other conditions, not inconsistent with the above, as he may from time to time deem wise and proper. Applications for this fellowship must be made in writing on blanks furnished by the Dean of the Graduate Department, and must be in the hands of the President not later than April 15. The Grand Army of the Republic Fellow for 1915-16 is

SAMUEL TOMLINSON ARNOLD, Sc.M.

THE OLIVER CROMWELL GORTON ARNOLD BIOLOGICAL FEL-LOWSHIP. This is a fund of ten thousand dollars given by Dr. Oliver Henry Arnold in memory of his father. The income, or any part of it, is given annually, according to the judgment and the discretion and under the direction of the President and the head of the Biological Department, for post-graduate work, to any student, either male or female, of good character, who is a graduate of any collegiate institution of recognized standing and who has shown during his or her college course great diligence, talent, and marked ability in biological work. If in any year there should be more than one applicant for this fellowship, the President and the head of the Biological Department select a beneficiary from the results of a competitive examination as well as from the known ability of the student to conduct original research giving promise of a successful career. Should there be more than one candidate of exceptional merit, the income of this fund may be divided between two of them, but it may be given to one of them should it seem best to the President and the head of the Biological Department. In awarding this fellowship, other qualifications being equal, the candidate most in need of assistance will be selected. Should any beneficiary prove in any manner unworthy of assistance, it shall be discontinued, and should a beneficiary give evidence of great ability for conducting original research and a promise of large usefulness in his or her professional career, this income may be continued to him or her for one, two, or three years, according to the judgment of the President and the head of the Biological Department. Should the income of this fund, or any part of it, not be used in any year, the unused amount shall be set aside as a fund to be used in any succeeding year in assisting any student in post-graduate research work in the Biological Department who shall have all the qualifications mentioned in the preceding sections; or it may be used for any of the necessary and legitimate expenses for the advancement of research work in the Biological Department. The Arnold Fellow for 1915-16 is

CHARLES HARLAN ABBOTT, A.M.

THE MORGAN EDWARDS FELLOWSHIP. This is a fund of ten thousand dollars given by the Philadelphia alumni of Brown University. Whenever the income from this fund shall amount to one thousand dollars it may be awarded by the President and Faculty of the University to an alumnus of not more than ten years' standing, for the pursuit of original research in any department of knowledge approved by the President and Faculty. The work may be carried on in any part of the world where it seems that the best facilities exist for the study of the subject selected. The award is to be made solely upon the ground of past merit and future promise. In exceptional circumstances the appointment may be continued for one or two additional periods of six months.

The first appointment will be made as of October 1, 1916. Applications for

consideration as candidates for this Fellowship should be addressed to the President of the University, from whom further details may be obtained.

THE EMMA JOSEPHINE AYER ARNOLD ARCHAEOLOGICAL FELLOWSHIP. This is a fund of ten thousand dollars given by Dr. Oliver Henry Arnold in memory of his wife. It is primarily for the Women's College (see page 250). But in case no graduate of the Women's College fulfils the conditions, the income of this fund may be paid, with the consent of the Dcan of the Women's College, for one year, for post-graduate archaeological study, to some male student amply fulfilling all of the above conditions, first, to some member of the graduating class of the University, or second, to any graduate of the University who has been a graduate for not more than ten years. The candidate must be approved by the President of the University and the professors of the Greek and Latin Departments.

TEACHING FELLOWSHIPS. In addition to the foregoing a number of Teaching Fellowships have been established, information regarding which will be furnished by the President.

FUNDED SCHOLARSHIPS. There are now eighty scholarships of one thousand dollars, each yielding the beneficiary forty to fifty dollars annually. With the exceptions indicated below, they bear the names of their founders. The income is awarded annually according to the conditions attaching to each fund.

THE ELEVEN NICHOLAS BROWN SCHOLARSHIPS

THE FOUR UNIVERSITY SCHOLARSHIPS

THE PRESIDENT'S SCHOLARSHIP, founded by President Sears.

THE SIX ALVAH WOODS SCHOLARSHIPS

THE JAMES H. DUNCAN SCHOLARSHIP

THE ISAAC DAVIS SCHOLARSHIP

THE ARNOLD WHIPPLE SCHOLARSHIP, founded by Mrs. Arnold Whipple.

THE EPHRAIM WHEATON SCHOLARSHIP, founded by James Wheaton.

THE JOSEPH BROWN SCHOLARSHIP, founded by Mrs. E. B. Rogers.

THE GARDNER COLBY SCHOLARSHIP

THE CROCKER SCHOLARSHIP, founded by Robert H. Ives and Thomas P. Ives, Trustees.

THE CLARK SCHOLARSHIP, also founded by the Messrs. Ives.

THE GEORGE K. AND H. A. PEVEAR SCHOLARSHIP

THE JOSEPH CHARLES HARTSHORN SCHOLARSHIP

THE ROGERS HIGH SCHOOL SCHOLARSHIF, founded by William Sanford Rogers.

THE JAMES WHEATON SCHOLARSHIP

FINANCIAL AID TO STUDENTS

THE CHARLES THURBER SCHOLARSHIP THE PARDON MILLER SCHOLARSHIP, founded by Mrs. Ann E. Miller.

THE HEZEKIAH S. CHASE SCHOLARSHIP

THE WILLIAM BUCKNELL SCHOLARSHIP

THE AUSTIN MERRICK SCHOLARSHIP, founded by Mrs. Olive E. Merrick.

THE HORATIO N. SLATER SCHOLARSHIP

THE EARL P. MASON SCHOLARSHIP

THE NEWPORT SCHOLARSHIP, founded by William Sanford Rogers.

THE ALEXIS CASWELL SCHOLARSHIP

THE THREE HENRY JACKSON SCHOLARSHIPS

THE MUMFORD SCHOLARSHIP, founded by Mrs. Louisa D. Mumford.

THE ALBERT DAY SCHOLARSHIP

THE HENRY P. KENT SCHOLARSHIP

THE ROMEO ELTON SCHOLARSHIP

THE FIVE ANNIE E. WATERS SCHOLARSHIPS

THE LEWIS FAIRBROTHER SCHOLARSHIP, founded by Mrs. Lewis Fairbrother.

THE GEORGE LAWTON SCHOLARSHIP

THE JOHN P. CROZER SCHOLARSHIP, founded by Mrs. Margaret Bucknell.

THE JAMES Y. SMITH SCHOLARSHIP

THE TWO S. S. BRADFORD SCHOLARSHIPS

THE FRANCIS R. ARNOLD SCHOLARSHIP

THE CORNELIA E. GREEN SCHOLARSHIP

THE TWO HENRY CLIFFORD KNIGHT SCHOLARSHIPS, founded by Miss Amelia S. Knight, in memory of her brother, a member of the class of 1875.

THE THURSTON SCHOLARSHIP, founded by the Hon. Benjamin F. Thurston, of the class of 1849.

THE RUFUS BABCOCK SCHOLARSHIP, founded by Mrs. Caroline Vassar Babcock Jones, in memory of her father, the Rev. Rufus Babcock, of the class of 1821.

THE JAMES FLETCHER BLACKINTON SCHOLARSHIP, founded by Mrs. Mary D. Blackinton, in honor of her husband, James Fletcher Blackinton, of the class of 1847.

THE SAMUEL WHITE DUNCAN SCHOLARSHIP, founded by Mrs. Mary Duncan Harris.

THE FIVE WILLIAM A. WHITE SCHOLARSHIPS, founded by Mrs. Abby S. A. White, in honor of her husband, William A. White, of the class of 1857.

THE RICHARDS SCHOLARSHIP, founded by the Rev. William Coolidge Richards, of the class of 1837.

THE BENJAMIN HUTCHINSON JUDAH SCHOLARSHIP

- THE S. DRVDEN PHELPS SCHOLARSHIP, founded by the Rev. S. Dryden Phelps, of the class of 1844, the income to be given each year to some student who is preparing for the Baptist ministry.
- THE ELIOT LOOMIS COLLINS SCHOLARSHIP, founded by Clarkson A. Collins in memory of his son, Eliot Loomis Collins, of the class of 1910, "the income to be given each year to some member of the Junior class needing pecuniary aid, who may possess his characteristic qualities of earnestness of application, steadfastness of character, and cheerful personality."
- THE E. BENJAMIN ANDREWS SCHOLARSHIP, founded by the class of 1898.
- THE JOSIAH NELSON CUSHING SCHOLARSHIP, founded by Samuel H. Tingley, Esq., in memory of the Rev. Josiah Nelson Cushing, D.D., of the class of 1862, for forty years missionary in Burmah.
- THE LUTHER WHITE SCHOLARSHIP, founded by Mabel Adaline White, in memory of her father, the Hon. Luther White, of the class of 1864, "the income to be given to deserving students, to be selected by the college authorities, but preference to be given always to male and female descendants of the members of the class of 1864."
- THE HENRY LYON SCHOLARSHIP, founded by William H. Lyon, of the class of 1868.
- THE SCHOLARSHIP OF THE CLASS OF 1895.
- There are also the following scholarships of larger amounts:
- THE TWO GEORGE J. SHERMAN SCHOLARSHIPS, paid from the income of a fund of two thousand five hundred and sixty-five dollars.
- THE BARTLETT SCHOLARSHIP of four thousand dollars, founded by Mrs. Elizabeth Slater Bartlett; the income to be "devoted to the support of one or more students needing pecuniary aid, and giving promise, by studious aim and by character and scholarship, of rising to distinction and usefulness."
- THE GLOVER SCHOLARSHIP of five thousand dollars, founded by Henry R. Glover, "in memory of his father, Samuel Glover, of the class of 1808, and of his brother, Samuel Glover, Jr., of the class of 1839."
- THE REBECCA A. WHEELER SCHOLARSHIP of fifteen hundred and seventy-one dollars; the income to assist some worthy student, preferably a candidate for the Baptist ministry.
- THE SCHOLARSHIP OF THE CLASS OF 1838 of thirty-eight hundred dollars.

THE JOSEPH CHARLES HARTSHORN SCHOLARSHIP of two thousand dollars.

THE TWO BANIGAN SCHOLARSHIPS of three thousand dollars each, founded by Joseph Banigan, of Providence; the income as far as necessary to be used each year to defray the tuition of two students of the University.

THE GEORGE IDE CHACE SCHOLARSHIP of five thousand dollars, founded by

Professor George Ide Chace, the income to be assigned each year by the Faculty to some member of the Senior class needing the money, who shows "marked ability, exemplary industry, generous aspirations, and irreproachable character." If in the Senior class there chances to be no person fulfilling the requirements of this scholarship, the proceeds of the scholarship for that year must be appropriated to the purchase of books for the Library of the University.

- THE ABBY WHEATON CHACE SCHOLARSHIP of four thousand dollars, also founded by Professor George Ide Chace, the income to be assigned yearly by the Faculty to some member of the Junior class needing the money, who shows "marked ability, exemplary industry, generous aspirations, and irreproachable character." If in the Junior class there chances to be no person fulfilling the requirements of this scholarship, the proceeds of the scholarship for that year must be appropriated to the purchase of books for the Library of the University.
- THE JOHN L. LINCOLN SCHOLARSHIP of twenty-five hundred dollars, founded by Abby G. Beckwith.
- THE TRUMAN BECKWITH SCHOLARSHIP of twenty-five hundred dollars, founded by Abby G. Beckwith.
- THE THAYER SCHOLARSHIP, founded by Edward C. Thayer, in honor of his father, Joseph Thayer, of the class of 1815; the income to be for the education of any young man or woman a resident of Uxbridge, Massachusetts, indorsed by the selectmen and superintendent of schools there, needing pecuniary aid, and giving promise by character and scholarship of a life of usefulness. If there is no applicant from Uxbridge, the income may go to any applicant from Massachusetts who fulfils the conditions.
- THE TWO WALTER G. WEBSTER SCHOLARSHIPS, founded by the Rev. Walter G. Webster, of the class of 1878; the income to go each year to two young men, members of the Freshman class, holding the full diploma of the Classical High School of the City of Providence and duly matriculated for the degree of Bachelor of Arts; "the nomination to rest with the Principal of said school, and to be made on the basis of character and scholarship, due regard being had to the need of such assistance."
- THE S. W. MARSTON SCHOLARSHIP of five thousand dollars, founded in the name of his father by Edgar L. Marston. This scholarship is open to any graduate of William Jewell College who may be recommended by the President of that institution.
- THE THREE E. L. MARSTON SCHOLARSHIPS of five thousand dollars each, founded by Edgar L. Marston. The first scholarship is open to any graduate of La Grange College who may be recommended by the President of that institution. The second and third are open to graduates of Baylor University under similar conditions.

- THE EATON SCHOLARSHIP of two thousand dollars, founded in memory of her husband by Mrs. Caroline B. Eaton; the income to be used "in the aid of indigent Baptist young men having the ministry in view, preference being given to young men from New Hampshire."
- THE ALEXANDER FARNUM SCHOLARSHIP of two thousand dollars, founded by the Rev. Augustus Woodbury; the income to be given to such student as the Faculty shall select, the primary condition being that such student shall have been prepared for college at Phillips Exeter Academy in Exeter, New Hampshire.
- THE ALBERT HARKNESS SCHOLARSHIP of three thousand dollars, founded by Professor Albert Harkness; the income to be paid annually under the direction of the Faculty to some student of excellent character and high scholarship who shall be in need of pecuniary aid.
- A FRIEND'S SCHOLARSHIP of five thousand dollars, founded by a friend of the University, the income to be awarded annually to some student in need of aid.
- THE ELLEN READ NEWELL SCHOLARSHIP of three thousand dollars, founded by George W. Newell in memory of his wife; "the income to be expended (1) in behalf of some worthy graduate of the Pawtucket High School who may need financial help, (2) to such other meritorious student as the President or Faculty may designate."
- THE FRED HOMER WILLIAMS SCHOLARSHIP of fifteen hundred dollars; the income to be awarded to some needy and worthy young man, preference being given to a graduate of the High School in Foxborough, Massachusetts.
- THE GEORGE WOODLEY HOGG SCHOLARSHIP of five thousand dollars, in memory of George Woodley Hogg, of the class of 1894, the income to be awarded annually to either one or two students at the discretion of the Scholarship Committee, preferably, though not necessarily, to students residing in the State of Rhode Island.
- THE DAVID W. HOYT SCHOLARSHIP of twenty-seven hundred dollars, founded by the Alumni Association of the Providence English High School; the income to go each year to some young man or woman designated by the Principal or the Acting Principal, for the time being, of the Providence English High School, subject to the approval of the President or the Acting President of Brown University.
- THE JACOB SHARTENBERG SCHOLARSHIP, yielding the recipient one hundred and fifty dollars a year, founded by Jacob Shartenberg "to assist in paying the expenses of some deserving student in either the sophomore, junior or senior class, . . . such student to be selected by the Faculty."
- AID FUNDS. There are ten aid funds at the disposal of the University. The income of these funds is divided into scholarships of varying amounts, which

are awarded under the general conditions applicable to all scholarships. They are as follows:

- THE AABON LUCIUS OBDWAY MEMORIAL FUND of twenty-five hundred dollars, founded by Samuel H. Ordway in the name of his father, "the income to be used in the discretion of the President to assist regular students of the University who are in need of assistance. Each student who accepts such assistance shall in writing acknowledge the receipt of the same and pledge himself to repay the amount so received by him as soon as he can conveniently afford to do so, all sums so repaid to be added to the principal."
- THE NANCY GOODNOW FUND of two thousand dollars, the income to be expended in assisting one or more students of the University who are preparing to be ministers of the Baptist denomination in the United States.
- THE AID FUND, established by friends of the University in 1868 and now amounting to ninety-three hundred dollars.
- THE DANIEL WANTON LYMAN FUND FOR STUDENTS, established by Daniel Wanton Lyman and now amounting to nearly seventy-five thousand dollars.
- THE WILLIAM GROSBECK GODDARD MEMORIAL FUND of five thousand dollars, founded by Col. Robert H. I. Goddard in the name of his son, "the income to be used by the President or Acting President of the University, in his discretion, to aid young men without adequate means to obtain an education. Each beneficiary shall give a receipt for all money received, and shall agree, without making any written pledge, to refund amounts received by him whenever he can do so conveniently."
- THE EDWIN A. W. HARLOW FUND, founded by Edwin A. W. Harlow, now amounting to \$10,400, the income to be "for assisting poor young men of excellent moral character in the Academic Department."
- THE ROBERT H. HARLOW FUND of three thousand dollars, founded by Robert H. Harlow, the income to be "for assisting poor young men of excellent moral character in the Academic Department."
- THE BENJAMIN BRAMAN FUND of one thousand dollars, the income to be granted annually to some worthy Christian student of limited means.
- THE JAMES STANTON KENVON MEMORIAL FUND of three thousand dollars, founded by his daughters, Elizabeth Burrows Kenyon Wilkinson and Mary Stanton Kenyon, the income to be used to aid worthy young men of high personal character and of diligent application to their studies. Each beneficiary shall agree, without making any written pledge, to refund amounts received by him whenever he can do so conveniently, all sums so repaid to be added to the principal.
- THE ROBERT JAMES YORKSTON MECKEL MEMORIAL FUND, founded by Miss Mary Wehmeyer, the income to be added to the principal until such time as the fund amounts to one thousand dollars. At that time "the income is to be used

by the University in helping students who in the judgment of the President of the University may need assistance in carrying on their studies at Brown University."

UNIVERSITY SCHOLARSHIPS. In addition to the income of the Scholarship and Aid Funds, there have been established University scholarships, which are of three grades:

(1) A small number yielding each \$75 a semester or \$150 a year, awarded to a few students of especially high scholarship.

(2) A number yielding each \$50 a semester or \$100 a year.

(3) A number yielding each \$25 a semester or \$50 a year, used in part to supplement the smaller endowed scholarships, and also for those students needing relatively less assistance.

It is expected that the holders of these scholarships will regard them as in a certain sense loans, and will at some time after graduation return to the treasury the amount awarded, to be used for the increase of the permanent scholarship funds, or that they will in some other way contribute to the endowment of the University.

[B] LOAN FUNDS

I. The Alumni Loan Fund, now amounting to about forty-three hundred dollars, was established by the Alumni Association at the Commencement of 1900 by a vote transferring to the Treasurer of the University the fund formerly known as the Brown Loyalty Fund, to be used as a loan fund for students. The principal of this fund is loaned at interest, to be repaid as agreed upon in each instance.

II. There is another fund, of several hundred dollars, which is loaned in small amounts without interest, for short periods, to students unexpectedly needing temporary assistance.

[C] SERVICE

The University is able to give employment to a number of students as monitors, assistants in the libraries and laboratories, members of the choir, and clerks in the Registrar's office. Not more than two hours a day are ordinarily required of any student; the compensation is made at definite rates. At present about six thousand dollars a year is appropriated for service, and employment is given to about eighty students, who receive amounts varying from thirty dollars to sixty dollars a semester.

The University also offers its aid in securing employment for students by business houses and residents of the city. Students who desire any kind of work are requested to make application to the Executive Secretary, Administration Building.

PREMIUMS, PRIZES, AND HONORS[‡]

FOR EXCELLENCE IN UNIVERSITY STUDIES

THE WILLIAM GASTON SCHOLARSHIP. This fund of five thousand dollars was established in 1899 by the widow and children of the Hon. William Gaston, LL.D., of the class of 1840. Its income is awarded annually by the Faculty solely upon merit, without reference to financial condition. For 1915–16 this scholarship was awarded to

HARRY WEEDEN UNDERWOOD, JR.

THE GASTON PRIZE MEDAL FOR EXCELLENCE IN ORATORY. From the income of a fund of three thousand dollars established in 1894 as a memorial to the Hon. William Gaston, LL.D., of the class of 1840, a gold medal is annually awarded to the member of the graduating class who delivers the best original oration in English. The orations are not to exceed fifteen hundred words. In order to compete for the prize, a student must deposit with the Registrar a typewritten copy of his oration, signed with an assumed name, six weeks before the public competition. From these orations a committee appointed by the President of the University selects not more than six for delivery. The committee of award in the final contest consists of three members appointed by the President. In making the award, regard is given to thought, style, and delivery. The winner of the medal is entitled to deliver an oration at Commencement. In 1916 the orations must be deposited with the Registrar on or before March 22; the public competition will be held on May 9. In 1915 this prize was awarded to

FRANKLIN BLAINE FROST

THE CARPENTER PREMIUMS, two in number, are derived from the income of funds established in 1867, one by Thomas Carpenter and one by Lydia Carpenter. They are assigned at the end of the Senior year to the two members of the Senior class who, "already on scholarships, shall, in the judgment of the Faculty, unite in the highest degree the three most important elements of success in life, —ability, character, and attainment." In 1915 these premiums were awarded to

ISMAR BARUCH and RALPH LEON BLANCHARD

THE HOWELL PREMIUM. The income of a fund amounting to one thousand dollars, presented to the University in 1867 by Gamaliel Lyman Dwight, is

[‡] The premiums and prizes enumerated here are, with the exception of the Society of Colonial Dames Prize in American History (see page 249), intended for men. The students of the Women's College are, however, entitled to compete in all examinations for premiums and prizes offered in Brown University. In case any woman is entitled to a first premium, one is awarded her by the Dean of the Women's College. For premiums awarded to women in 1915 see page 250.

given at the close of the first semester of the Senior year to the student who, "having a good record of deportment, has the highest rank in Mathematics and Natural Philosophy." To be considered a candidate for the premium, a student must, in each semester from the Freshman year to the end of the first semester in the Senior year, take at least one of the elective courses in pure or applied mathematics. In 1915 this premium was awarded to

ISMAR BARUCH

THE FOSTER PREMIUM IN GREEK is derived from the income of a fund of three thousand dollars bequeathed to the University in 1880 by the Honorable Lafayette Sabine Foster, of the class of 1828. In accordance with the terms of the donor's will, the income of this fund is to be "annually paid to that scholar of the institution who passes the best examination in the Greek language, the examination to be made in the first, third, and twenty-fourth books of Homer's *Iliad*, or in the *Oration on the Crown* by Demosthenes." The examinations are open to the members of the Senior class. The next examination will be held on Wednesday, May 3, 1916; candidates will be examined in the *Iliad*. In 1915 the premium was awarded to

SAMUEL BENJAMIN

THE LUCIUS LYON PREMIUMS IN LATIN are derived from the income of a fund of five thousand dollars presented to the University in 1893 by Mrs. Caroline L. Lyon, in memory of her husband, Lucius Lyon, of the class of 1844. Five-tenths of the income each year forms the first premium, three-tenths the second, and two-tenths the third. Any part of the income not needed in any given year must be added to the fund. The premiums are awarded on the basis of a special examination held during the second semester of the Senior year. In 1916 the examination will be held on Wednesday, May 17. The examination may relate to any or all of the following subjects : the Latin language, Roman literature, Roman history. The President of the University and the head of the Department of Roman Literature and History prescribe the conditions for admission to the examination. In 1915 the premiums were awarded as follows :

> The first premium to SAMUEL BENJAMIN The second premium to RALPH LEON BLANCHARD The third premium to George Edward Chalmers Hayes

THE CLASS OF 1873 PRIZE. The income of a fund of one thousand dollars, presented to the University by the class of 1873, is awarded each year to that member of the Senior class who writes the best essay on a historical or a philosophical subject. The subjects, which are of a historical nature one year and of a philosophical nature the next, are assigned by the respective departments. For 1915-16 the subject is: British Administration in Egypt. For 1914-15 the subject was: A Critical Examination of the Philosophy of Nietzsche. No prize was awarded.

THE BISHOF MCVICKAR PRIZES were founded by the late Rt. Rev. William N. McVickar, Bishop of the Protestant Episcopal Diocese of Rhode Island, and are continued by his sister, Miss E. C. McVickar. A first prize of fifty dollars, and a second prize of twenty-five dollars, is awarded for the best essays of from three to four thousand words on a subject assigned by the Department of Biblical Literature. The competition is open to undergraduate men who are, or have been, students in the Department of Biblical Literature. Those who intend to compete must give their names to the head of the department not later than March 1, and essays, under an assumed name, must be delivered to the Registrar not later than the first Saturday in May. For 1915-16 the subject is: *The Interpretation of Jesus in the Writings* of St. Paul. For 1914-15 the subject was: *The Ancient Hebrew Prophets and the Modern Social Crisis*. The prizes were awarded as follows:

> The first prize to VERNON RICE The second prize to CHARLES JAMES HILL

THE SOCIETY OF COLONIAL DAMES PRIZE IN AMERICAN HISTORY. The income of a fund of fifteen hundred dollars, known as The Roger Williams Fund established by the National Society of Colonial Dames in the State of Rhode Island and Providence Plantations, given to the University in 1906, is awarded each year as a prize for the best essay on a subject in American colonial history. The competition is open to Juniors, Seniors, and Graduates, and to men and women on equal terms. Essays must show independent use of authorities, and should, in general, extend to at least four thousand words. Detailed regulations governing the competition are announced from year to year, and the name of the successful competitor is announced at Commencement. For 1915–16 the subject is: A History of King Philip's War. The subject for the essay in 1914–15 was: The Participation of Rhode Island in the French and Indian Wars. The prize was awarded to

HAROLD MURDOCK TAYLOR

- THE PEACE SOCIETY PRIZE of fifty dollars is offered by the Rhode Island and Providence Plantations Peace Society (founded in 1818) to the undergraduate men for the best essay on some phase of the subject of international peace. The essays of from three to six thousand words in length must be typewritten, signed with an assumed name, and deposited with the Registrar before 1 p.m. on April 15. The judges, three in number, are to be chosen by the President of Brown University.
- THE BENNETT PRIZE. The income of a fund of four hundred dollars, established by Philo S. Bennett in 1905, will be awarded annually for an essay on Free Government. The conditions of the competition will be announced later.
- THE CLASS OF 1880 PRIZES, established in 1905 by the class of 1880, are awarded each year to the undergraduates of Brown University who show the most

ability in presenting arguments on some current question of importance to Brown University. The subject for discussion, the time, and the manner of presentation are all determined by representatives of the English department in consultation with the president of the Debating Union and the editors-in-chief of the *Brunonian* and the *Brown Daily Herald*. The prizes are awarded by a board of five judges: two are appointed by the President of the University, two by the undergraduate members of the committee in charge; the fifth is a member of the English department.

In 1915-16 a first prize of thirty-five dollars and a second prize of twentyfive dollars will be awarded to the students who show the most ability in a public discussion of the subject: *That Freshmen should be prohibited from playing on the 'Varsity foot-ball team.* This discussion will be held on December 8; a preliminary discussion will be held on December 1. A first prize of twenty-five dollars, and a second prize of fifteen dollars, will be awarded to the writers of the best argumentative essays of from three thousand to five thousand words upon the same subject. The essays must be signed with an assumed name; they must be in the hands of the Registrar before 4 p.m., December 3. Either prize for the essay may be withheld if the judges deem it best. A student may enter both competitions. For 1914-15 the subject was: *Shall the Honor System of conducting examinations be adopted at Brown?* The prizes were awarded as follows:

The first prize for the discussion to ISMAR BARUCH *The second prize for the discussion to ROWLAND HAZARD MCLAUGHLIN The first prize for the essay to SIDNEY CLIFFORD The second prize for the essay to ISMAR BARUCH

THE HICKS PRIZES FOR EXCELLENCE IN DEBATE, established by the Hon. Ratcliffe Hicks, of the class of 1864, are annually awarded as follows:

I. Two prizes of fifty dollars each, one for each of the two sets of representatives of the University in the intercollegiate debates. In each instance the prize is given to the man showing the greatest ability both in the preliminary trials and in the final trial. In awarding the prize, regard is given to thought, style, and delivery. The judges are at least three in number, appointed by the Debating Union. In 1915 these prizes were awarded to

ROWLAND HAZARD MCLAUGHLIN and SAMUEL HENRY WORKMAN

II. A first prize of thirty dollars and two second prizes of twenty dollars to the students showing the greatest ability in a public debate between the representatives of the Junior and Sophomore classes. Each class is represented by three men, whom a committee appointed by the President of the University chooses from the preliminary contestants at least three weeks before the public debate. This committee also determines the subject and makes the necessary arrangements. The judges in the public debate are three, one appointed by the President, and one by each group of competitors. The

PREMIUMS, PRIZES, AND HONORS

prizes are awarded irrespective of the decision upon the debate as a whole. Any one prize may be withheld if no one is adjudged to deserve it. In making the award, regard is given to thought, style, and delivery. In 1916 the public debate will be held on May 16. In 1915 these prizes were awarded as follows:

The first prize to DAVID BARNEY FEINBERG The second prizes to Edward Ingersoll Cristy and Charles James Hill

THE DUNN PREMIUM. The income of a fund of one thousand dollars, presented to the University in 1872 by pupils and friends of Professor Robinson Potter Dunn, is given, at the end of the Junior year, to the student having the highest standing in the courses in rhetoric, English composition, and public speaking. In making the award, regard is given to the number of such courses taken as well as to the rank attained in them. In 1915 this premium was awarded in equal parts to

THOMAS BARTHOLOMAE KEVILLE and FRANCIS JOSEPH O'BRIEN

THE CARPENTER PRIZES FOR ELOCUTION, derived from the income of a fund established in 1867 by Thomas Carpenter, are awarded each year to the three students to whom are assigned the first, the second, and the third rank of excellence in elocution. The competition is open to all members of the Sophomore class, and to those members of the Junior class who did not enter the preliminary competition in their Sophomore year. The selections declaimed may be either prose or verse. They must be approved by the Professor of Public Speaking, with whom competitors must enter their names not later than the first day of February. A preliminary contest for the purpose of selecting the speakers takes place in the early part of the second semester; all arrangements for it are in the hands of the Professor of Public Speaking. The committee of award consists of five members. - the Professor of Public Speaking, who is the chairman, two persons selected by the Corporation; and two persons selected by the Sophomore class; no one who is or has been a member of the class is eligible to membership in the committee. In 1916 the contest will be held in Manning Hall on April 19. In 1915 these prizes were awarded as follows:

> The first prize to HAROLD RAYMOND HALL The second prize to JACOB ROSENBERG The third prize to EARL MOORE PEARCE

FOR EXCELLENCE IN PREPARATORY STUDIES

- THE PRESIDENT'S PREMIUMS, derived from the income of a fund presented to the University in 1843 by President Wayland, supplemented from the income of the Hicks Prize Fund, No. 2, are awarded each year to those members of the Freshman class who upon examination are found to excel in the studies required for admission to the University in Greek and Latin. First and Second Premiums are awarded in each of these studies. The examinations deal with the general principles and laws of the languages involved rather than with irregularities and exceptions. Special importance is attached to the pupil's familiarity with the subject-matter of the works read, and to his ability to translate with accuracy and facility into clear, appropriate, and idiomatic English. The examination in Greek is held in 5 Maxcy Hall at 2.30 p.m. on the third Wednesday of the first semester, and that in Latin in 1 Sayles Hall at 2.30 p.m. on the fourth Wednesday. The award of these premiums in 1915 was as follows:
 - In Greek the first premium to WILLIAM HENRY Edwards, instructed in Moses Brown School, Providence.
 - The second premium to FRED BARTLETT PERKINS, instructed in the Classical High School, Providence.
 - In Latin the first premium to WILLIAM HENRY EDWARDS, instructed in Moses Brown School, Providence.
- The second premium to ROGER TILLINGHAST CLAPP, instructed in the Classical High School, Providence.
- THE HARTSHORN PREMIUMS IN MATHEMATICS, derived from the income of a fund of one thousand dollars presented to the University in 1872 by Joseph Charles Hartshorn, of the class of 1841, are awarded each year to the two members of the Freshman class who upon examination are found to excel in the mathematical studies required for admission to the University. The examination is held in 26 Wilson Hall at 2 p.m. on the fifth Wednesday of the first semester. The award of these premiums in 1915 was as follows:
 - The first premium to ROGER TILLINGHAST CLAPP, instructed in the Classical High School, Providence.
 - The second premium to MANUEL GEORGE ROBINSON, instructed in the High School, Central Falls.
- THE ENTRANCE PREMIUMS IN FRENCH, derived from the income of the Hicks Prize Fund, No. 2, are awarded each year to the two members of the Freshman class who upon examination are found to excel in the French studies required for admission to the University. The examination is held in 1 Sayles Hall at 2 p.m. on the sixth Wednesday of the first semester. The award of these premiums in 1915 was as follows:

- The first premium to VICTOR AMEDEE BRASSARD, instructed in St. Mary's College, Montreal, P. Q.
- The second premium to MANUEL GEORGE ROBINSON, instructed in the High School, Central Falls.
- THE CAESAR MISCH ENTRANCE PREMIUMS IN GERMAN are awarded each year to the two members of the Freshman class who upon examination are found to excel in the German studies required for admission to the University. The examination is held in 5 Sayles Hall on the seventh Wednesday of the first semester. The award of these premiums in 1915 was as follows:
 - The first prize to RUDOLPH JOHN CHAUNCEY FISHER, instructed in the Classical High School, Providence.
 - The second prize to JAMES SAVILLE EASTHAM, instructed in the High School, Methuen, Mass.

HONOR SCHOLARSHIPS

To encourage proficiency in studies and to provide recognition for successful application to college work, the Faculty has established Honor Scholarships without aid as follows:

THE JAMES MANNING SCHOLARSHIPS, awarded to those undergraduates whose work throughout the year has been of such excellence that they are deemed worthy of very high academic distinction.

For 1914-15 these scholarships were awarded as follows:

Class of 1915 Ismar Baruch Franklin Blaine Frost Wilbur Tobias Breckenridge Herbert Newell Nicholas Cecil Merne Putnam Cross Samuel Greene Arnold Rogers William Randall Waterman

Class of 1916

CLAUS EMANUEL EKSTROM

HENRY WEEDEN UNDERWOOD, JR.

Class of 1917

THOMAS BAIRD APPLEGET

Class of 1918

CHARLES GURNEY EDWARDS JAMES EDWARD PAIGE WILLIAM MILLER FAY ALBERT SANGER PRATT

THE FRANCIS WAYLAND SCHOLARSHIPS, awarded to those undergraduates whose work throughout the year, though not of the highest standard, has been of such excellence that they are deemed worthy of high academic distinction.

For 1914-15 these scholarships were awarded as follows:

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CHARLES PERCY BABINGTON	SHARON OSBORN BROWN	
RALPH LEON BLANCHARD	PRESCOTT WILLIAM HILL	
GEORGE FREMONT BLIVEN	FRED WILLIAM MILLER	
FRANCIS CHAPIN BRECKENRIDGE	CHARLES AUSTIN PIPER	
ADAMS THURBER RICE		

Class of 1916

Abraham Jacob Burt Horace Janney Farlee Earl Franklin Wood

Class of 1917

BANCROFT HUNTINGTON BROWN JOHN GEORGE PETERSON

Class of 1918

HORACE CARPENTER JEFFERS

WILFRED PICKLES

At Commencement four members of the graduating class deliver original orations in English of not more than fifteen hundred words each. One speaker is the winner of the Gaston medal; the others are appointed by the Faculty on the recommendation of a special committee on Commencement speakers. The basis of selection is scholarship, ability to write, and ability to speak. In 1915 the speakers selected by the Faculty were:

APPOINTMENTS FOR COMMENCEMENT

ISMAR BARUCH

RALPH LEON BLANCHARD

WILLIAM ARTHUR NEEDHAM

FINAL HONORS

FINAL HONORS in any department are awarded, at the completion of the studies leading to a bachelor's degree, to those who have secured: (1) A mark of A in courses in the department aggregating twelve or more semester hours; (2) a mark of B or A in eighty-five per cent of all their courses of study. In any department, however, certain specified courses may not be included in those counted for Final Honors. The names of all students awarded Final Honors are printed in the Commencement Program and in the Annual Catalogue. In 1915 the awards were as follows:

CHARLES PERCY BABINGTON, Art, Romance Languages and Literatures.

ISMAR BARUCH, Mathematics, Physics, Romance Languages and Literatures.

SAMUEL BENJAMIN, Roman Literature and History, Romance Languages and Literatures.

ematics, Roman Literature and History. GEORGE FREMONT BLIVEN, Romance Languages and Literatures, Social and Political Science. WILBUR TOBIAS BRECKENRIDGE, Electrical Engineering, Mechanical Engineering, Physics. SHARON OSBORNE BROWN, English. WILLIAM RUSSELL BURWELL, Mathematics. CECIL MERNE PUTNAM CROSS, Education, History. SHIRLEY EVERETT CULVER, Education, English, Roman Literature and History, Romance Languages and Literatures. FRANKLIN BLAINE FROST, Social and Political Science. FREDERIC JOHNSON HUNT, Mathematics, Romance Languages and Literatures. GEORGE HENRY ANTHONY LA ROE, Romance Languages and Literatures. HAROLD LESLIE MYERS, Biology, Chemistry. WILLIAM ARTHUR NEEDHAM, Economics, English, Romance Languages and Literatures. HERBERT NEWELL NICHOLAS, Education, History. JAMES FRANCIS O'DONOGHUE, Mathematics, Physics. Roy CLEVELAND PHILLIPS, Germanic Languages and Literatures, Romance Languages and Literatures. SAMUEL GREENE ARNOLD ROGERS, English, Greek Literature and History, Philosophy. GEORGE WILLIS WATERMAN, Biology, Chemistry. WILLIAM RANDALL WATERMAN, Economics, History. KATHERINE CANADA, Art, Roman Literature and History. ALMIRA BASHFORD COFFIN, Biology. CARRIE THOMPSON FOULKES, History.

EMELLA ADELE HEMPEL, Germanic Languages and Literatures.

LUCY ALMA YOUNG, Germanic Languages and Literatures.

DEGREES CONFERRED IN 1915

DEGREES IN COURSE

BACHELOR OF ARTS

William Emmett Beehan Samuel Benjamin Ralph Leon Blanchard Irving Thayer Boardman. With the class of 1914 Oscar Anthony Brown Sharon Osborne Brown Walter Russell Burnham William Russell Burwell Sidney Clifford Edward John Corcoran Allan David Creelman. With the class of 1910 **Cecil Merne Putnam Cross** Shirley Everett Culver Paul Oliver Curtis Harold Thomas Eaton MacDonald Low Edinger Wilmer Hughes Eicke **Ernest Hartwell Emery** Carl De Witt Everingham Wallace Lester Gallup Harold Leslie Gibbs Aaron Elmer Gottshall John Russell Haire George Edward Chalmers Hayes Frederic Johnson Hunt

Elizabeth Lucy Angell Katherine Canada Almira Bashford Coffin Lydia Louise Cooper Grace Emma Currie Helen Alida Daniels Irene Celine Dougherty Marjorie May Farnum Carrie Thompson Foulkes Marion Page Harley Paul Joseph Kingsley Clarence Joseph Lamb Howard Langley George Henry Anthony La Roe Myer Joseph Lozovitsky Raymond C. McKay Richard Lambie McLean Harold Cranston Miner Harold Leslie Myers Herbert Newell Nicholas John Henry Nolan Benedict Max Olch Lester Curtis Page Robert Emmet Quinn Samuel Greene Arnold Rogers Hans Herbert Rohrbach William Paine Sheffield, Jr. Maurice Siff Edward Rowland Smith Milton Hammond Stansbury **Elliot Shippen Staples** Elias Charles Sydney Carl Anthony Terry Homer Emsley Van Derwerken **Russell Mills Wilson** Edward Harrison Winsor Samuel Henry Workman

Emelia Adele Hempel Ruth Margaret Henderson Florence Belle Hopkins Maybell Olney Kingsley Gertrude Emma Kneeland Lillian Irene Mathewson Alice Inez McMeehan Ruth Eleanor Norris Helen Earl Potter Elinor Edna Randall 196

DEGREES CONFERRED

Frances Marjorie Richardson Ruth Sisson Edna Goldberg Solinger Edna Frances Southwick Elizabeth Agnes Sullivan Ruth Harriet Thayer Alma May Waterman Gladys Elizabeth Wilbur Charlotte Audra Young Lucy Alma Young

BACHELOR OF PHILOSOPHY

John Blair Abbott Edgar Allen Alfred Williams Anthony, Jr. Charles Percy Babington Arthur Earl Barnard Ismar Baruch Harrison Bliss George Fremont Bliven Earl Allwood Bowen Joseph Brown Bowen John Hanson Bower Francis Chapin Breckenridge Edward Raymond Campbell Leonard Brown Campbell Theodore Chandler Chen Chong Chen Charles Myron Clegg Ralph Waldo Cram Frank Bennett Crocker William Clinton Crolius, Jr. Minot Jay Crowell John Morris Davis **Donald** Dike Norman Le Roy Duncan Eliot Harold Falk Franklin Blaine Frost **Roderick** Allen Gillis Ralph Brown Graham Frederick Hartwell Greene Joseph Irving Greene Benjamin Harry Grossman **Clarence** Thomas Hamill Herman Nichols Harcourt **Clifford Sherman Hathaway** Schuyler Victor Hayward

George Earl Hebner Prescott William Hill Edward Winslow Hincks Dana Mortimer Hubbard Harley Clifford Hyde Harold Mitchell Jackson William Thomas Joyce Leslie Torrance Little William Fowler Littlejohn Earl Francis Luther Rowland Hazard McLaughlin Colin Gordon McLeod Fred William Miller Joseph Miller Seth Kimball Mitchell William Arthur Needham Hendrik Gabriel Nelson James Francis O'Donoghue **Charles Stuart Phelps** Roy Cleveland Phillips Wilber John Phillips **Charles** Austin Piper Adams Thurber Rice William Karl Rice Frederick John Rogers Philip Carl Scherer Wallace Gear Stewart Sherman Merrill Strong Parke Hardy Struthers Harold Murdock Taylor Harold Winthrop Tucker George Clark Valentine George Willis Waterman William Randall Waterman Harold Earle Watson

Byron Lillibridge West Theodore Peters Whittemore

Janet Macfarlane Bourn Lucy Elizabeth Bourn Ethel Lucetta Crompton Helen Lucille Crooker Margaret Crooks Marion Katherine Horton Harold Leslie Wilson

Ethel Marguerite Sack Nancy Steere Elizabeth Gregory Walter Mildred Wells May Chaffee West

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Roland Edes Copeland Harvey Gladding Denham Silas William Foss Wallace Allyn Gannon Morris Edwin Hultslander Harvey Bullinger McCrone John Anthony Owen, Jr. George Thomas Paine John Albert Weld Pearce Howard Lewis Quimby John Joseph Skolnick

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Albert Edwin Beachen. With the class of 1914 John Rudolph Carlson John Leslie Jenney Harold Clarence Kinne Louis Morenci Sweeny Edward Robert Walsh, Jr.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Wilbur Tobias Breckenridge

James Joseph Tyrrell. With the class of 1914

MASTER OF ARTS

Irving Thayer Boardman Raymond Franklin Borden, Ph.B. Mary Lyon Bosworth, A.B. Doris Snow Briggs, A.B. Millie Dimond Church, Ph.B. Cecil Merne Putnam Cross Robert Jaquith Fuller, A.B. Grace Brown Gardner, A.B. Carl Banta Gibson, A.B. Sven Gustaf Hagglund, A.B., B.D. Sarah Newton Hallett, Ph.B. Arthur Burton Hussey, A.B. Edwin William Johnson, A.B. Ralph Baker Low, Ph.B. Leland Scott McLeod, Ph.B. Marguerite Mathews, A.B. Jesse Benton Mowry, Sc.B., A.M. Winona Merle Perry, Ph.B. Arthur Forest Ranger, A.B. John Hugh Reilly, A.B. Arthur Leslie Reynolds, Sc.B. Stephen Hendrix Rider, A.B. John Lebroc Smith, Sc.B. Walter Henry Snell, A.B. Walter Hoff Sprague, A.B. Mary Clegg Suffa, A.B.

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DEGREES CONFERRED

Mary Sweetland, A.B. Amy Mildred Wentworth, A.B. Alfred Howard Williamson, Ph.B.

MASTER OF SCIENCE

Hubert Hayward Champney Che Raymond Carpenter Colwell, A.B. Jam James Russell Esty, Sc.B. Ker

Chester Lewis Knowles, Ph.B. James Francis O'Donoghue Kenneth Stillman Rice, Ph.B.

DOCTOR OF PHILOSOPHY

Charles Carroll, A.B., A.M., LL.B. THESIS: "The History of Public Education in Rhode Island."

Lillian Moller Gilbreth, B.L., M.L. THESIS: "Some Aspects of Eliminating Waste in Teaching."

Ralph Gibney Hurlin, A.B., A.M. THESIS: "The Histogenesis and Distribution of the Connective Tissue Pigmentation of the Silky Fowl." Benjamin Samuel Levine, Sc.B., Sc.M.

THESIS: "The Removal of Natural Impurities of Cotton Cloth by Action of Bacteria."

Courtland Sawin Mudge, Ph.B., A.M. THESIS: "The Effect of Sterilization on the Sugars of Culture Media."

George Hathorn Smith, A.B., A.M. THESIS: "The Parenteral Digestion of Bacterial Protein."

Albert Whitman Sweet, Ph.B., A.M. THESIS: "A Sanitary Survey of the Seekonk River."

HONORARY DEGREES

MASTER OF ARTS CHARLES HENRY FORBES THEODORE BURROWS STOWELL JAMES PRESTON WILSON

DOCTOR OF DIVINITY SAMUEL GAVITT BABCOCK CLARENCE MASON GALLUP

DOCTOR OF LETTERS Walter Cochrane Bronson Talcott Williams

DOCTOR OF LAWS John Huston Finley Henry Noble MacCracken

.

LIST OF STUDENTS

GRADUATES

Antrim, N. H. Charles Harlan Abbott A.B., A.M. (Brown University) 1913. Education, Biology, Registered candidate for Ph.D. Pontiac Abel Alexius Ahlquist A.B. (Augustana College) 1903; B.D. (Augustana Theological Seminary) 1909. Biblical Literature, Social Science. Enrolled candidate for A.M. Edgar Allen Edgewood Ph.B. (Brown University) 1915. Biology, Botany, Chemistry, Music. Enrolled candidate for A.M. **Richard Day Allen** Providence A.B. (Brown University) 1910; A.M. 1912. Education, Social Science. Registered candidate for Ph.D. Waldo Vanderbilt Andrews Partucket A.B. (Bates College) 1911. Education, Registered candidate for A.M. Elizabeth Lucy Angell Providence A.B. (Brown University) 1915. Education. Enrolled candidate for A.M. Samuel Tomlinson Arnold · Corinna. Me. A.B. (Brown University) 1913; M.S. 1914. Physics, Chemistry. Enrolled candidate for Ph.D. Arthur Earl Barnard Providence Ph.B. (Brown University) 1915, Chemistry, Biology. Enrolled candidate for Sc.M. Providence **Raymond Livingston Barney** B.S. (Rhode Island State College) 1915. Biology, Chemistry. Enrolled candidate for Sc.M. **Ruth Kingsbury Benton** Providence A.B. (Wellesley College) 1915. German, Education, Philosophy. Enrolled candidate for A.M. Grace Electa Bird Providence Ph.B. (University of Chicago) 1897. Education. Registered candidate for Ph.D. Ralph Leon Blanchard Cumberland Centre, Me. A.B. (Brown University) 1915. Mathematics. Enrolled candidate for A.M. Providence Alice Marie Blessing A.B. (Brown University) 1907. Latin. Registered candidate for A.M. Marion Emmett Bratcher Ekron, Ky. A.B. (William Jewell College) 1913; A.M. (Brown University) 1914. Biblical Literature. Enrolled candidate for Ph.D. Edward Coggeshall Brown Providence A.B. (Harvard University) 1905. Education. Special Graduate Student. Sharon Osborne Brown Providence A.B. (Brown University) 1915. History, English. Registered candidate for A.M. Theodore Henry Brown Providence A.B. (Yale University) 1910; A.M. 1911; Ph.D. 1913. Mechanical Engineering. Special Graduate Student. Wallace Rochman Brown Bristol A.B. (Harvard University) 1910. Education. Special Graduate Student. Harold Stephen Bucklin Pawtucket A.B. (Brown University) 1910. Education, Social Science. Registered candidate for Ph.D.

William Russell Burwell Providence A.B. (Brown University) 1915. Mathematics. Enrolled candidate for A.M. Edith Marie Linnea Carlborg Providence A.B. (Brown University) 1911, German, English. Enrolled candidate for A.M. Abbie Loretta Caldwell North Attleboro. Mass. A.B. (Wellesley College) 1912. Chemistry. Registered candidate for A.M. Chen Chong Chen China Ph.B. (Brown University) 1915. Biology, Chemistry. Enrolled candidate for Sc.M. **Raymond Carpenter Colwell** Johnston A.B. (Brown University) 1913; M.S. 1915. Biology, Chemistry. Registered candidate for Ph.D. Lydia Louise Cooper Attleboro, Mass. A.B. (Brown University) 1915. Education. Registered candidate for A.M. Helen Crooker Cranston Ph.B. (Brown University) 1915. Education. Registered candidate for A.M. Percy Raymond Crosby Wakefield, Mass. B.S. (New Hampshire State College) 1912. Education. Registered candidate for A.M. **Cecil Merne Putnam Cross** Providence A.B., A.M. (Brown University) 1915. Social Science, Political Science, History. Registered candidate for Ph.D. Minot Crowell Melrose, Mass. Ph.B. (Brown University) 1915. Chemistry, Biology, Enrolled candidate for Sc.M. Shirley Everett Culver Attleboro, Mass. A.B. (Brown University) 1915. Education, Italian. Enrolled candidate for A.M. Helen Olivia Price Curry Providence A.B. (Columbia University) 1915. Education, Mathematics. Enrolled candidate for A.M. Mildred Elaine Cutler Pawtucket A.B. (Brown University) 1914. Education, Philosophy, English. Enrolled candidate for A.M. **Olive Elizabeth Dana** Pomfret. Ct. A.B. (Smith College) 1915. History, Education. Registered candidate for A.M. Helen Alida Daniels Providence A.B. (Brown University) 1915. Education. Registered candidate for A.M. Herman Mantell Davis Providence Chemistry, Philosophy. Enrolled candidate for A.M. John Davis, Jr. Youngstown, Ohio Ph.B. (Brown University) 1915. Mechanical Engineering, Chemistry, Economics, Edu-cation. Enrolled candidate for A.M. Anne Marjory Day Providence A.B. (Vassar College) 1898. English. Registered candidate for A.M. Providence Hermione Louise Dealey Ph.B. (Brown University) 1914; A.M. (Clark University) 1915. Education. Registered candidate for Ph.D. Rev. Hagop Depayan Armenia, Turkey A.B. (Euphrates College) 1902; B.D. (Euphrates Theological Seminary) 1908. Social Scicnce. Registered candidate for A.M. Neshan Desdegulian Armenia, Turkey (Armenian College) 1907. Social Science, Political Science, Philosophy. Registered can-

didate for A.M.

GRADUATE STUDENTS

George Clinton Dickey Sc.B. (Worcester Polytechnic Institute) 1913. A.M.	Central Falls Education. Registered candidate for
Irene Celine Dougherty A.B. (Brown University) 1915. Education, Philo A.M.	Providence sophy, History. Enrolled candidate for
Norah Eloise Dowell	Providence
Ph.B. (Brown University) 1913 ; A.M. 1914. Thes	sis. Enrolled candidate for Ph.D.
Agnes Maude Dunn	Phenix
A.B. (Smith College) 1909. English, Education. I	Registered candidate for A.M.
Harold Thomas Eaton	Stonington, Ct.
A.B. (Brown University) 1915. Education. Enro	lled candidate for A.M.
Wilmer Hughes Eicke	Narragansett Pier
A.B. (Brown University) 1915. German. Registe	red candidate for A.M.
Marion Jane Emsley	Johnston
Ph.B. (Brown University) 1912. Education. Reg	ristered candidate for A.M.
James Russell Estey Sc.B. (<i>Rhode Island State College</i>) 1914; Sc.M. (istry. Registered candidate for Ph.D.	Slatersville Brown University) 1915. Biology, Chem-
Ralph Beach Farnum	Providence
Sc.B. (Brown University) 1910. Education. Regi	istered candidate for A.M.
Louis Carter Flocken	Pawtucket
A.B. (Wesleyan University) 1912; A.M. 1913. Edu	acation.Registered candidate for Ph.D.
Herbert Elliott Foote Ph.B., A.M. (Brown University) 1914. Physics, Ph.D.	Pawtucket Chemistry. Registered candidate for
Marion Kenneth Forward	Providence
Ph.B. (Brown University) 1914. English, Philosop	phy. Registered candidate for A.M.
Paul Hart Francis Sc.B. (Brown University) 1912; Sc.M. 1913, Physic for Ph.D.	Providence ics, Mathematics. Registered candidate
Wallace Lester Gallup A.B. (Brown University) 1915. Biblical Literatu A.M.	Springfield, Mass. are, Philosophy. Enrolled candidate for
Harold Leslie Gibbs A.B. (Brown University) 1915. Economics, Philo date for A.M.	Westfield, Mass. osophy, Social Science. Enrolled candi-
Benjamin Harry Grossman Ph.B. (Brown University) 1915. Education, Gen A.M.	Providence rman, History. Enrolled candidate for
Sven Gustav Hagglund A.B. (Augustana College) 1900; B.D. (Augustan (Brone University) 1915. Social Science, Bit for Ph.D.	Providence as Theological Seminary) 1904; A.M. blical Literature. Registered candidate
Marion Page Harley	Pawtucket
A.B. (Brown University) 1915. Mathematics, Ed	lucation. Enrolled candidate for A.M.
Walter Sumner Hayward	Rochester, N. Y.
English, Spanish, History. Enrolled candidate	for A.M.
Irene Hawes	Riverside
Ph.B. (Brown University) 1912. Education. Reg	istered candidate for A.M.

Alfred Cary Hawkins Plainfield, N. J. Sc.B. (Columbia University) 1909; A.M. (Princeton University) 1912. Thesis. Enrolled candidate for Ph.D. Providence Emelia Adele Hempel A.B. (Brown University) 1915. Education. Registered candidate for A.M. John Chester Herring North Attleboro, Mass. A.B. (Harvard University) 1910. Education. Registered candidate for A.M. Providence Prescott William Hill Ph.B. (Brown University) 1915. Education, Mathematics, Physics. Enrolled candidate for A.M. Edward Winslow Hincks Providence Ph.B. (Brown University) 1915. Biology. Registered candidate for A.M. Margaret Lavina Howard Brockton, Mass. A.B. (Vassar College) 1915. German, Music. Enrolled candidate for A.M. Nathaniel Orson Howard Conimicut Ph.B. (Brown University) 1903. Botany, Registered candidate for Sc.M. Dana Mortimer Hubbard Woburn, Mass. Ph.B. (Brown University) 1915. English, History. Registered candidate for A.M. Phenix **Roval Carlton Hudson** Sc.B. (Rhode Island State College) 1915. Biology, Chemistry. Enrolled candidate for Sc.M. Frederic Johnson Hunt Providence A.B. (Brown University) 1915. Mathematics. Enrolled candidate for A.M. Albert Clayton Hunter East Providence Sc. B. (Rhode Island State College) 1915. Biology, Chemistry, Enrolled candidate for Sc.M. East Providence John L. Jackowitz Sc.B. (Rhode Island State College) 1915. Social Science, Education. Registered candidate for A.M. Bernard Alovsius Keenan Pawtucket A.B., A.M. (Brown University) 1909. German, Romance Languages. Enrolled candidate for Ph.D. Grand Forks, N. D. Audrey Vera Kelsey A.B. (North Dakota University) 1914. English. Enrolled candidate for A.M. Providence Lowell Kendrick Ph.B. (Brown University) 1912; A.M. 1913. Biology, Chemistry. Registered candidate for Ph.D. Providence Arthur Kiernan Ph.B. (Brown University) 1911. Physics, Mathematics. Enrolled candidate for A.M. **Chester Lewis Knowles** Narragansett Pier Ph.B. (Brown University) 1914; Sc.M. 1915. Chemistry, Biology, Physics. Registered can-didate for Ph.D. Providence Karl Henry Koopman A.B. (Brown University) 1913. Biblical Literature. Enrolled candidate for A.M. Howard Langley Newport A.B. (Brown University) 1915. Greek, Latin, Political Science, Education. Enrolled candidate for A.M. Buffalo, N.Y. Joseph Aubrey Landschoof Latin, History. Enrolled candidate for A.M. Auburndale, Mass. Mary Lawrence A.B. (Wellesley College) 1911. Biblical Literature. Registered candidate for A.M.

GRADUATE STUDENTS

Benjamin Towne Leland	Providence
A.B. (Harvard University) 1906. Education. Re	egistered candidate for A.M.
Leslie Torrence Little Ph.B. (Brown University) 1915. History, Educa	Providence
Samuel Longwell A.B. (Bates College) 1902. Biology. Registered of	Woodbury, Ct.
Russell Crosby Lowell	Providence
Sc.B. (Brown University) 1899; A.M. 1907. Educ	cation. Special Graduate Student.
Harry Havelock Lowry A.B. (Bates College) 1912; A.M. (Brown Univer date for Ph.D.	Providence sity) 1914. Education. Registered candi-
Earl Francis Luther	East Providence
Ph.B. (Brown University) 1915. Biology, Educa	stion. Enrolled candidate for A.M.
Joseph Beldfield McIntyre	Providence
Ph.B. (Brown University) 1894. Botany, Biology	y. Enrolled candidate for Sc.M.
Peter Morrison MacKay	Providence
Philosophy. Social Science. Special Graduate S	Student.
Alice Inez McMeehan A.B. (Brown University) 1915. German, French,	Rumford Education. Enrolled candidate for A.M.
Francis Aloysius Mangan	Ashton
A.B. (Boston College) 1913. Education. Register	red candidate for A.M.
Harriet Tracy Marvell	Fall River, Mass.
A.B. (Wellesley College) 1897. Geology. Register	ered candidate for A.M.
Lillian Irene Mathewson	Johnston
A.B. (Brown University) 1915. German. Regist	ered candidate for A.M.
Marguerite Matthews A.B. (Mount Holyoke College) 1914; A.M. (Brow Graduate Student.	Providence on University) 1915. Education. Special
Percy Davol Meader	Providence
Ph.B. (Brown University) 1914. Biology, Chemi	istry. Enrolled candidate for Sc.M.
Frederick William Addison Miller	Ivoryton, Ct.
Ph.B. (Brown University) 1915. German, Philos	sophy. Enrolled candidate for A.M.
Irving Calvary Mitchell	Greenville
Sc.B. (Rhode Island State College) 1913. Educat	tion. Registered candidate for A.M.
Mark Mohler Ph.B. (Brown University) 1911; A.M. 1912. Bit for Ph.D.	Providence olical Literature. Registered candidate
Elizabeth Morrison	Providence
A.B. (Brown University) 1910. Physics, Chemis	try, Biology. Special Graduate Student.
Lewis Neader, Jr.	Providence
Ph.B. (Brown University) 1909. Botany. Regist	ered candidate for A.M.
Walter Chadwick Nelson Ph.B. (Brown University) 1912; A.M. 1913. Biol Ph.D.	Fall River, Mass. ogy, Chemistry. Enrolled candidate for
Ira Lester Nickerson	Johnston
A.B. (Brown University) 1907. Education. Enro	Delled candidate for A.M.
Herbert Newell Nicholas A.B. (Brown University) 1915. Political Science, for A.M.	Pawtucket History, Education. Enrolled candidate

Elizabeth Louise Nichols Belchertown, Mass. A.B. (Mount Holyoke College) 1909, Biology, Botany, Enrolled candidate for A.M. Hannah Senior Nicholson Pawtucket A.B. (Brown University) 1911. History. Registered candidate for A.M. Warren Perham Norton Waymart, Pa. History, Education, Political Science, Enrolled candidate for A.M. Mary Imelda O'Brien Providence French, Mathematics, English. Enrolled candidate for A.M. Jenny Martha Palmer Cranston A.B. (Brown University) 1914. Education. Enrolled candidate for A.M. **Ralph Langley Parker** Brockton, Mass. Sc.B. (Rhode Island State College) 1915. Biology, Chemistry, Enrolled candidate for Sc.M. Rev. Joseph Russell Peckham Providence B.D. (*Temple University*) 1910; S.T.D. 1911. Biblical Literature, Social Science, Philosophy. Enrolled candidate for A.M. Paul Clav Porter Waco, Texas A.B. (Baylor University) 1915. Mathematics, Physics, Enrolled candidate for A.M. **Raymond Abner Preston** Danielson, Ct. A.B. (Brown University) 1914; A.M. (Harvard University) 1915. English. Registered can-didate for Ph.D. James Lee Railey Pineville, La. A.B. (Louisiana College) 1907. Philosophy, History. Enrolled candidate for A.M. Kenneth Stillman Rice Auburn Ph.B. (Brown University) 1913; M.S. 1915. Biology. Registered candidate for Ph.D. **James Everett Ricker** Providence Sc.B. (Brown University) 1914. Education. Registered candidate for A.M. Laura Mary Rogers Bennington, Vt. B.L. (Smith College) 1902. Education. Registered candidate for A.M. Sarah Gridley Ross Saratoga Springs, N.Y. A.B. (Brown University) 1905. English. Registered candidate for A.M. Eda May Round Providence Ph.B. (Brown University) 1897; A.M. 1899. Botany, Biology. Registered candidate for Ph.D. **Ethel Marguerite Sack** Providence Ph.B. (Brown University) 1915. Education. Registered candidate for A.M. Benjamin David Scott Somerset, Mass. A.B. (University of Southern California) 1911; S.T.B. (Boston University) 1914. Biblical Literature. Special Graduate Student. John Frank Scott Providence A.B. (Harvard University) 1907. Philosophy. Special Graduate Student. David Taylor Shaw Oberlin, Ohio. A.B. (Oberlin College) 1914. Chemistry, Physics, Mathematics. Enrolled candidate for A.M. Warren Andrew Sherman Phenix A.B. (Brown University) 1911. Education. Enrolled candidate for A.M. Lester Burrill Shippee Pullman, Wash. A.B. (Brown University) 1903; A.M. 1904. History, Social Science, Political Science, En-rolled candidate for Ph.D. Harold Everett Smiley Providence Ph.B. (Brown University) 1912. Chemistry. Enrolled candidate for Ph.D.

GRADUATE STUDENTS

Edna Goldberg Solinger A.B. (Brown University) 1915. Biology, Englis A.M.	Providence sh, Chemistry. Enrolled candidate for
Edgar Jonathan Staff	Campello, Mass.
Biology, Chemistry. Enrolled candidate for A.M	M.
Henry Jennison Blakely Stitt	Pawtucket
Ph.B. (Brown University) 1912. Education. Res	zistered candidate for A.M.
Louis Robert Sullivan	Houlton, Me.
A.B. (Bates College) 1914. Biology, Botany. Enr	olled candidate for A.M.
Minnie White Taylor	Providence
A.B. (Brown University) 1913. Botany. Enrolle	d candidate for A.M.
Major George Cyrus Thorpe LL.B. (New York University) 1909; Sc.B. 1910. S A.M.	Newport social Science. Registered candidate for
Charles Franklin Towne	Providence
A.B. (Colby College) 1900. Social Science, Educa	ation. Enrolled candidate for A.M.
Richard Dana Tucker	Providence
Ph.B. (Brown University) 1906. Education. Reg	ristered candidate for Sc.M.
William Maston Tugman	Providence
A.B. (Harvard University) 1914. English. Regis	stered candidate for A.M.
Homer Emsley Van Derwerken	Granville, N.Y.
A.B. (Brown University) 1915. Enrolled candid	ate for A.M.
Dorothy Charlotte Walter	Lyndonville, Vt.
Ph.B. (Brown University) 1912. History, Educa	tion. Enrolled candidate for A.M.
Edward Howland Wardwell	Bristol
Sc.B. (Princeton University) 1911. Biology. Res	gistered candidate for Ph.D.
Alma May Waterman	Cranston
A.B. (Brown University) 1915. Botany, Chemis	try. Enrolled candidate for A.M.
William Randall Waterman	Providence
Ph.B. (Brown University) 1915. History, Educa	ation. Enrolled candidate for A.M.
Harold Earle Watson	Cranston
Ph.B. (Brown University) 1915. Biology, Chemi	stry. Enrolled candidate for A.M.
Joseph Weiner	Providence
Ph.B. (Chicago University) 1915. Education, Ge	erman. Enrolled candidate for A.M.
Byron Lillibridge West Ph.B. (Brown University) 1915. Electrical Eng candidate for Sc.M.	Edgewood ineering, Chemistry, Physics. Enrolled
Morris Jacob Wessel Ph.B. (Brown University) 1911. History, Politi A.M.	Port Norris, N. J. cal Science. Registered candidate for
Marion Dodge Weston A.B. (Mount Holyoke College) 1906; A.M. 1907. I candidate for Ph.D.	Georgetown, Mass. Botany, Geology, Education. Registered
Stephen Solomon White, Jr. A.B. (Peniel University) 1911; B.D. (Drew Theole cation. Enrolled candidate for A.M.	North Scituate ogical Seminary) 1914. Philosophy, Edu-
Helen Barnes Whiting	Summit, N. J.
A.B. (Mount Holyoke College) 1915. Biology, Ch	emistry. Registered candidate for A.M.
Clinton Burnett Wilbur A.B. (Williams College) 1906. Greek, Registered	Somerset, Mass.

Harold Clayton Wilcox South Milford, Mass. Sc.B. (Rhode Island State College) 1915. Biology, Chemistry. Enrolled candidate for Sc.M. Alfred Howard Williamson Providence

Ph.B. (Brown University) 1912; A.M. 1915, Education. Registered candidate for Ph.D.

Charlotte A. Young Bristol A.B. (Brown University) 1915. Education. Registered candidate for A.M.

UNDERGRADUATES WITH THE DEGREES FOR WHICH THEY ARE REGISTERED

[A. = A.B. P. = PH.B. S. = SC.B.]

SENIORS: CLASS OF 1916

NAME		RESIDENCE
Frank Reuben Abbott	` A	Providence
Maurice Adelman	A	Providence
Arvid Axel Alm	8	Peabody, Mass.
Harold Patterson Andrews	Р	Providence
George Ralph Arnold	Р	Providence
Lincoln Richards Arnold	Р	Providence
Frederick Allan Ballou, Jr.	Р	Providence
Harold Chester Barney	Р	East Providence
Louis Earl Bauer	Р	Linwood, N.Y.
Edward Warren Blue	S	Newton, Mass.
John Morton Booth	A	Fall River, Mass.
Elliot Harris Bosworth	Р	Chicopee Falls, Mass.
Francis James Brady	A	Providence
Leon William Brower	A	Providence
Joseph Richard Brown	Р	Provincetown, Mass.
Abraham Jacob Burt	A	Providence
Harry Hunter Burton	S	New Bedford, Mass.
Nathan Benedict Burton	A	Woodbury, Ct.
Howard Seibert Butterweck	р	Allentown, Pa.
Seward Groves Byam	Р	North Adams, Mass.
George Joseph Aloysius Cairns	A	Providence
Louis William Capelli	A	Providence
John Joseph Cashman	A	Providence
Wilfred Warren Chandler	s	Somerville, Mass.
William Curtis Chase	A	Providence
Henry Leon Cohen	Р	Providence
John Stuart Coleman	Р	Providence

SENIORS: CLASS OF 1916

	IOIIS: CLASS	
NAME Albert Bullook Coop		RESIDENCE Providence
Albert Bullock Coop	8	
Edmond Patrick Corcoran	A	Rockville, Ct.
Joseph Merritt Couse	P	Asbury Park, N. J.
Edward Ingersoll Cristy	Р	Providence
Gerald Dwight Curtis	A	Warwick Neck
Samuel Reed Damon	P	Kingston
Elmer Freman Davenport	P	Shelburne Falls, Mass.
Herman Mantell Davis	A	Providence
Richard Dresser	P	Providence
John Bernard Dunn	P	Providence
Henry Dursin, Jr.	8	Woonsocket
Francis Michael Dwyer	A	Providence
John Lamson Eddy	S	Providence
Claus Emanuel Ekstrom	A	Providence
Gordon Banham Ewing	P	Newton Centre, Mass.
Arthur Warren Fairchild	Р	Newtown, Ct.
Horace Janney Farlee	P	Lambertville, N. J.
Shiang-fuan Fay	S	Tientsin, China
Philip Aaron Feiner	P	Providence
Herman Feinstein	A	Providence
Willard Ware Ferguson	A	Burlington, Vt.
Frederick Lum Ferris	Р	East Orange, N. J.
Joseph Joaquim Fraga	S	Providence
Earl Russell Fretz	Р	Ottsville, Pa.
John Lindley Gammell	A	Providence
Phillip Paddock Goodwill, J	r. P	Bramicell, W. Va.
William Augustus Graham	A	Providence
Harold Raymond Hall	P	Hackettstoren, N. J.
Ernest Halliwell		Fall River, Mass.
Joseph Francis Halloran	P	Fall River, Mass.
Walter Sumner Hayward		Rochester, N.Y.
Francis Carmody Healey	P	Cuba, N.Y.
Clifford Davenport Heathco	te P	Providence
Charles James Hill	A	Syracuse, N.Y.
Ployer Peter Hill	s	Newburyport, Mass.
Gustave Desiré Houtmann	s	Manville
Rowland Roberts Hughes	P	West Long Branch, N. J.
William Newton Hughes	A	Manton
Thomas Mayno Hull	P	East Providence
William Henry Hurlin	P	Antrim, N. H.
Willis Hobson Jeffery	P	Providence
	P	
George Franklin Johnston	P	Long Branch, N. J.
Barclay Lincoln Jones	P	South China, Me.

NAME Edward Lawrence Kehoe	-	RESIDENCE
Thomas Bartholomae Keville	Р	Naugatuck, Ct. Providence
	A	
Joseph Aubrey Landschoof Newton Peckham Leonard	A	Dunkirk, N.Y.
	Р	Providence E id and March
Vincent Washburn Leonard	s	Fairhaven, Mass.
Charles Alick Levin	A	Norwich, Ct.
Herbert Royal Lindblom	5	Providence
Harold Irving Long	A	Sharon, Mass.
Burton Loren Lucas	р	Rumford
Paul Crouse Lyall	Р	Lawrence, Mass.
William Rhodes LeRoy McBee	Р	Providence
James Joseph McGinn	A	Providence
Charles Berger MacKay	Р	Providence
Hugh Stanford McLeod	Α	Providence
William Henry Managan, Jr.	Р	Westlake, La.
Roger Laurence Marble	A	Brockton, Mass.
Ernest Fremont Mattison	S	Edgewood
Allen Guy Maxwell	A	Slatington, Pa.
Albert Edward Mayoh	Р	Pawtucket
Harold Madison Messer	Р	Newbury, N. H.
Paul Barney Metcalf	Р	Wickford
Herman Michelson	S	New York, N.Y.
Paul Peter Miller	Р	Sterling, Ct.
John Wesley Moore	A	Providence
Henry Avery Morgan	s	Niagara Falls, N.Y.
Wilfred McCullough Murch	P .	Providence
James Anthony Murphy	Р	Whitman, Mass.
Walter Vincent Murphy	S	New Britain, Ct.
David Wilson Neill, Jr.	S	Bernardsville, N. J.
Francis Joseph O'Brien	A	Providence
William Nicholas Ormsby	р	Dorchester, Mass.
Henry Bacheller Osborn	р	Peabody, Mass.
Frank Eugene Paine, Jr.	Р	Warwick
John Pitkins Palmer	р	Stockbridge, Mass.
Clayton Leroy Phillips	Р	New Haven, Ct.
Ralph Williams Pratt	s	Newton Centre, Mass
Russell Billings Quimby	s	South Acton, Mass.
Richard Drury Rice	Р	Lynn, Mass.
Vernon Rice	А	Williamsport, Pa.
John Joseph Riley	р	New Bedford, Mass.
Thomas Herbert Robinson	Λ.	Waterbury, Ct.
Jacob Rosenberg	р	Fall River, Mass.
Paul Lewis Russell	р	White Plains, N.Y.
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JUNIORS : CLASS OF 1917

NAME		RESIDENCE
Carlo Canio Russo	A	San Fele, Italy
John Alexander Ryrie	A	Alton, Ill.
Earl Duckworth Sanford	A	Providence
Percy Waterman Sarle	P	Providence
Wilbour Eddy Saunders	A	Providence
Harold George Saxton	Р	Brockton, Mass.
Earle Winslow Schoonmaker	Р	Newark, N. J.
Harold Duel Scott	A	Granville, N.Y.
Abraham Shoul	Р	Newburyport, Mass.
Paul Foster Sinclair	Р	Johnson, Vt.
James Edward Skane	S	Providence
Albert Francis Smith	S	East Haddam, Ct.
Franklin Chapman Smith	S	Westerly
Frank Russell Smith	Р	Norwich, Ct.
Wilbur John Snyder	A	Buzzards Bay, Mass.
Joseph Henry Stannard	S	Providence
Frank Elmer Starrett	Р	Athol, Mass.
David Steel	Р	Auburn
Roland Lucius Stickney	S	Manchester, N. H.
Joseph Laycock Strickland	A	Lawrence, Mass.
Edmund James Sullivan	S	Providence
William Francis Sullivan	Р	Wellesley Hills, Mass.
Egbert Foster Tetley	Р	North Chelmsford, Mass.
Harry Weeden Underwood, Jr.	Р	Narragansett Pier
Guy William Wells	Р	Montrose, Pa.
George Morrill White	Р	Providence
Irving Clough White	A	Lynn, Mass.
Amasa Fitch Williston	A	Tiverton
Edward Talpey Willson, Jr.	Р	Farmington, N. H.
Henry Parker Witte	Р	Morristown, N. J.
Earl Franklin Wood	A	Danielson, Ct.
George Henry Wood, Jr.	Р	Pawtucket

JUNIORS: CLASS OF 1917

Abraham Lincoln Abel	A	Lawrence, Mass.
Roger Upham Allard	Р	Providence
Ralph Carleton Allen	Р	Abington, Mass.
Thomas Baird Appleget	Р	New York, N.Y.
Ralph Avery Armstrong	А	Franklin, Ct.
Kenneth Nelson Atwater	Р	Newark, N. J.
Joel Mead Austin	P	Cairo, N.Y.
Hugh Bain	S	Providence

Dito	01111	
NAME Eugene LeRoy Bamforth		RESIDENCE Somerville, N. J.
Richard Davis Banigan	s S	Providence
Nelson Barlow	P	Pawtucket
Henry Augustus Batchelor	P	Detroit, Mich.
Alexander Peck Bates	A	West Greenwich Centre
Edgar Otis Benson, Jr.	P	Auburn
Raymond Clarke Blanchard	A	Providence
Arthur Edward Breckenridge	P	Providence
Bancroft Huntington Brown	A	Hyde Park, Mass.
John Francis Brown	P	Providence
John Russell Brown	P	Morgan Park, Ill.
Malcolm Wright Burnham	s	Hopedale, Mass.
Harold Abbott Butler	s	Mansfield, Mass.
Ward Elsmere Butler	P	Providence
Angelo Anthony Caldarone	A	Providence
Frank Caesar Cambio	A	Providence
Anthony Caputi	s	Providence
Gilbert Congdon Carpenter, Jr.	Р	Providence
Wallace Rhodes Chandler, Jr.	A	Providence
William Thomas Manning Cleare	s	Fall River. Mass.
Leon Eugene Close	P	Moravia, N. Y.
Frederick Willis Conover	P	Point Pleasant, N. J.
Walter Austin Cooper	A	Attleboro, Mass.
Howard David Corkum	P	Leominster, Mass.
Bertrand Munroe Cromack, Jr.	P	Colrain, Mass.
Carleton Herbert Day	P	Waltham, Mass.
Ralph Tillinghast Denison	P	Moosup, Ct.
Arthur John De Nommé	Р	Arctic
Ralph Di Leone	A	Providence
Theophilus Dimmick	Р	Staatsberg, N.Y.
Donald Kelsey Dobbs	Р	New York, N.Y.
Barney David Feinberg	Р	Lake Placid, N.Y.
James Gordon Fernald	A	Upper Montclair, N. J.
Arthur Barden Finch	Р	Providence
Norman Lincoln Fishel	Р	Roxbury, Mass.
Kenneth Ainsworth Flanders	Р	Providence
Albert Henry Flint, Jr.	Р	Bristol
Robert Nathaniel Foote	8	New York, N. Y.
Irving Scott Fraser	s	Providence
Joseph Otis Fuller	S	Providence
David Thayer Gallison	P	Franklin, Mass.
Lory Talman Gardner	Р	Providence
William John Grace	р	Bernardsville, N. J.

JUNIORS: CLASS OF 1917

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JUNIORS: V	JLASS V	OF 1917 215
NAME		RESIDENCE
Joseph Daniel Haggerty	S	Poughkeepsie, N.Y.
Henry Theodore Hagstrom	Р	Youngstown, Ohio
Bicknell Hall, Jr.	S	Taunton, Mass.
John Robert Wheaton Hall	Р	Warren
Herbert Percival Halvorson	Р	Pawtucket
Robert Warren Hamilton	Р	Providence
Orville Byron Hayward	Р	Chicago, Ill.
Maurice Whitcomb Holton	Р	Manchester, N. H.
Arthur Bartlett Homer	Р	Providence
Arthur Ariel Hopkins	P	Aldenville, Pa.
William Stanley Howard	A	Providence
Harry Arden Hughes	8	Providence
Wendell Everett James	A	Providence
Bruce Monat Jeffris	Р	Janesville, Wis.
Raymond Earl Jordan	A	Pawtucket
Samuel Katzin	Р	Providence
Charles Bird Keach	Р	Providence
Solon Chester Kelley, Jr.	A	Stamford, Ct.
Paul Homer Keough	Р	New York, N.Y.
Edwin Munroe Knights	Р	Riverside
Chauncey Bemis Ladd	P	St. Louis, Mo.
Carl Oswald Lathrop	A	Providence
James William Leighton	A	Phenix
Victor Le Valley	P	Long Branch, N. J.
Harold Spencer Litchfield	S	Auburn
Robert Gustavus Daniel Ljunggren	A	Providence
Edward Carleton Loud	р	South Weymouth, Mass.
Melville Morris Lowe	Р	Essex, Mass.
Eliot Horton Luther	A	Providence
Morton Perry McLeod	P	Lafayette
Hugh Wilson MacNair	Р	Houghton, Mich.
Alfred Joseph Marron	A	Media, Pa.
William B. Miller	S	Palmerton, Pa.
James Patrick Murphy	P	New Bedford, Mass.
Albert Reginald Nichols	Р	Auburn
George Arnold Northup, Jr.	A	Peace Dale
Isaac Yale Olch	Р	Providence
Earl Moore Pearce	A	Providence
Reginald Marcy Pease	s	Providence
Leslie Lovell Perry	P	Oak Bluffs, Mass.
John George Peterson	P	Providence
James Stephen Powers	A	Providence
Lester Ware Preston	s	Providence

214 DROW	IN UNIVES.	1.0111
NAME		RESIDENCE
Howard Hepson Quinham	S	Lonsdale
William Harris Reese	А	Parsons, Pa.
John Wesley Rhoads	Р	Edge Hill, Pa.
Paul Curtis Richards	Р	Goffstown, N. II.
Henry Carlton Robertson	S	Lakewood, N. J.
Ralph Lester Robinson	S	Providence
Harold William Ryley	A	New London, Ct.
Rust Scott	Р	Providence
Harvey Sheahan	А	Wickford
Edmund Lawrence Sheridan	Р	Providence
Philip Raymond Sisson	А	Providence
Thomas Bryant Smith	А	Long Branch, N. J.
Daniel Parkhurst Spalding	А	Providence
Richard Hobart Spear	Р	Burlington, Vt.
Walter Kenneth Sprague	Р	North East, Pa.
James Cunningham Springer	А	Providence
Robert Taft Staples	А	Burlington, Vt.
Walter Joseph Stein	Р	Chicago, Ill.
Raymond Parkhurst Stickney	s	Manchester, N. II.
Leslie Edmund Stone	Р	Providence
John Storer, Jr.	Р	Providence
Henry Eldridge Sweet	Р	Providence
Herbert Tuttle Tinker	Р	Nashua, N. H.
Frank Baker Tuckerman	А	Media, Pa.
Richard Henry Van Horn	s	Lambertville, N. J.
Peter Vasilieff	s	Ekatevinosleff, Russia
William Wallace Wade	А	Trenton, Tenn.
Raymond Joseph Walsh	А	Providence
Raymond Belcher Ward	Р	Newark, N. J.
Stanley Ayrault Ward	Р	Newport
Albert Estes Wätjen	s	Warren
Herman William Wätjen, Jr.	А	Warren
Robert McKay Watson	S	Pawtucket
William Leroy Wedemeyer	s	Lakewood, N. J.
John Frederick Wendt	s	Providence
Jaspar Wight	Р	Lakewood, N. J.
Rouse Babcock Wilcox	А	Stonington, Ct.
Frank Valentine Willard	А	Chicago, Ill.
Harding De Cautillon Williams	А	Daytona, Fla.
Howard Dwight Williams	Р	Rockland, Mass.
Clarence Henry Woodmansee	A	Providence
Stuart Edsall Yeakel	Р	East Orange, N. J.

SOPHOMORES: CLASS OF 1918

SOPHOMORES: CLASS OF 1918

NAME		RESIDENCE
Walter Adler	A	Providence
Elis Petrus Ahlquist	s	Wilcox, Pa.
Howard Horace Allsopp	Р	Newark, N. J.
Robert Johnson Ames	Р	Cortland, N.Y.
James Francis Armstrong	A	Providence
Charles Walter Arthur	Р	Manchester, N. H.
Harold Adams Backus	р	Providence
Raymond Francis Bagley	Р	Providence
Octave Peterson Beauvais	Р	Boston, Mass.
James Van Benschoten Bennett	А	Centredale
Roy Wilmot Benton	Р	New Bedford, Mass.
Carlton Merrill Bliss	р	Attleboro, Mass.
Roswell Bosworth	A	Bristol
Vernon Aubrey Bowman	А	Springfield, Mass.
Norman Bromson	Р	Providence
Franklin Coolidge Brooks	А	Colorado Springs, Col.
Kenneth Livingston Burdon	Р	Providence
Edward James Butler	Р	Westerly
John Colvin Butner, Jr.	Р	Winthrop, Mass.
Herbert Butterfield	Р	Providence
Peter Leo Cannon	А	Providence
Armand Laurier Caron	A	Southbridge, Mass.
Paul Cartwright	s	Wakefield, Mass.
John Sharpe Chafee	А	Providence
Christopher Allen Champlin	р	Block Island
William Watts Chaplin	А	Syracuse, N.Y.
Herbert Winfield Chappell	A	Ashaway
Reuben Rogers Chase, Jr.	р	Marion, Mass.
Winn Willard Chase	Р	Fall River, Mass.
Eben Stevens Cleveland	Р	Webster, Mass.
Dwight Townsend Colley	Р	Nayatt
Harold Everett Collins	Р	Providence
John Joseph Conway	Р	Providence
Earl Thompson Cox	Р	Providence
Lester Ray Craig	А	Danielson, Ct.
Henry Carl Cramer, Jr.	S	East Hartford, Ct.
Paul Schröder Crandall	Р	Groton, Ct.
Raymond Edward Cuffe	А	Providence
Matthew Joseph Cummings, Jr.	A	Providence
Lemuel Florence Patterson Curry	Р	Willoughby, Ohio
Albert Edwin Dillingham	Р	Saxtons River, Vt.

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Asahel Stultz Dillon Edward Judson Dilts John Marshall Dowe Chester Miller Downing George Arthur Dubois Charles Henry Eden, Jr. **Charles Gurney Edwards** Irwin Correll Elmer Clifton Roy Entwistle **Raymond Earl Farnsworth** Mark Farnum Floyd Cerelle Fay, Jr. William Miller Fay **Cyrus Glenn Flanders** Lawrence Gustav Flick Harold Francis Fogerty James Henry Foley **Emery Milton Foster** William McKinley Gafafer Sidney Russell Gair Francis Vincent Garside **Paul Francis Giles** Harry Ralph Gordon Attmore Edwin Griffin Paul Joseph Grimes Vincent Bernard Hackett Frank Charles Haddleton Thomas Watkins Hall Karnek A. Handanian **Ernest Clifton Hathaway** George Julius Heidt Williams Horan Higgins Mason Cole Hill Harvey Scott Hincks Alfred Rounds Holden Wheaton Grenville Hudson Henry Olsen Huggenvig George Clifton Hull Malcolm Clevcland Hylan John Francis Isaac **Horace Carpenter Jeffers** Manuel James Jemail Bertil Abraham Johnson

RESIDENCE
Youngstown, Ohio
Lowell, Mass.
Danielson, Ct.
Providence
Fall River, Mass.
Providence
Providence
Providence
Providence
Ayer, Mass.
Georgiaville
Franklinville, N.Y.
Franklinville, N.Y.
Providence
Saylesville
Providence
Providence
Watertown, Mass.
Jersey City, N. J.
Oak Park, Ill.
Providence
Leroy, N. Y.
East Cleveland, Ohio
Wakefield
Pawtucket
Providence
Providence
North Providence
Providence
North Tiverton
New York, N. Y.
Providence
Providence
Providence
Providence
Hartford, Ct.
New York, N.Y.
East Providence
Medfield, Mass.
Ballston Spa, N.Y.
Central Falls
Newport
Edgewood
22490000

SOPHOMORES : CLASS OF 1918

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NAME *		RESIDENCE
Morrill Phillips Josselyn	A	Bridgewater, Mass.
Harry Waldemere Kallstrom	Р	Pittsfield, Mass.
Norman Luther Keller	Р	Bedminster, Pa.
Ronald MacDonald Kimball	A	Norwich, Ct.
Louis Israel Kramer	A	Providence
Clifford Pierpont Ladd	Р	Richmond, Va.
Chauncy Taft Langdon	A	Providence
Henry Coe Lanpher	Р	Glen Ridge, N. J.
Carroll Burton Larrabee	Р	Bradford, Pa.
John Richard Leeming, Jr.	Р	Fall River, Mass.
Wardwell Coles Leonard	Р	Providence
Sze-Chen Liao	Р	Kiangsu, China
Leroy Dexter Lincoln	Р	Ashton
Arthur Bancroft Lloyd	Р	Providence
James Irving McDowell	A	Providence
George McEwan	A	Holyoke, Mass.
Walter Raymond McGinn	A	Providence
Thomas Aloysius McGuire	A	Whitinsville, Mass.
Thomas McIntyre, Jr.	A	Parctucket
Harold Allen McKay	Р	Bradford, Mass.
Russell Elwood McKenzie	Р	Foxboro, Mass.
Kenneth Brodie MacLeod	Р	Providence
Joseph Edward Maguire	S	Providence
William Anthony Maguire	A	Providence
William Chester Malenfant	S	Providence
Herbert Linsley Manchester	Р	Attleboro, Mass.
Vernon Charles Manley	A	Ludlow, Vt.
Henry Russell Mannex	Р	West Quincy, Mass.
Julian Brewer Marshall	A	Ashton
Allison Miller	Р	New York, N. Y.
John Gordon Moriarty	Р	Woodhacen, N. Y.
Maurice Moskol	S	Providence
Clifton Irving Munroe	A	Providence
William Allenwood Murray	A	Hardwick, Vt.
Waldon Charles Nason	s	Providence
Philip Ezra Newhall	A	Cumberland Mills, Me.
John Champlin Noyes	Р	Norwich, Ct.
James Edward Paige	A	Peabody, Mass.
Gordon Lancester Parker	Р	Providence
Raymond Henry Parker	Р	Providence
Francis Roberts Parsons	Р	Providence
Albert Edward Pearson	Р	Edgewood
Ralph Watson Peters	P	New Bedford, Mass.

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NAME		RESIDENCE
Wilfred Pickles	А	Providence
Clarence Crombie Po	A	Bassein, Burma, India
Albert Sanger Pratt	A	Pomfret Centre, Ct.
Lyle Meton Prouse	A	Fayetteville, N. C.
Dana Rice	A	Providence
Wilbur Lamprey Rice	Р	Providence
Charles Read Richardson	S	North Adams, Mass.
John Brown Riddock	А	New Bedford, Mass.
John Christian da Rosa	А	Cambridge, Mass.
William John Ross	А	Providence
George Clemison Scott	А	Newport
Jacob Theodore Sidkowsky	А	Providence
Edward Faville Siff	Р	St. Louis, Mo.
Samuel Isadore Silverman	А	Providence
William Eyre Sisson	A	Providence
Benjamin Howard Slade	Р	Providence
Isaac Gallup Smith	s	Westerly
Warren Mayhew Sniffin	Р	Pittsburgh, Pa.
Frank Casper Speck, Jr.	Р	Auburn
Harold Rosenfield Strauss	Р	Brookline, Mass.
Charles Arthur Stuart	Р	Plattsburg, N.Y.
George Rodger Sturtevant	s	Attleboro, Mass.
Alfred James Sullivan	г	Fall River, Mass.
Daniel Thomas Sullivan	s	West Warren, Mass.
John Sweetland	Р	Providence
Pierre Everett Teets	г	Tuckahoe, N. Y.
Harleigh Van Slyck Tingley	s	Bristol
Frederick Neale Tompkins	s	Pawtucket
George Wheaton Carr Vaughan	Р	Providence
Charles Henry Vehse	s	Apponaug
Augustus Caesar Webb	Р	Montgomery, Ala.
Edward Clarence Welch	р	Lynn, Mass.
Raymond Brooks West	р	Fall River, Mass.
Harold Fairfield Coit Wilcox	Р	Tiverton
Raymond Louis Wilder	Р	Palmer, Mass.
Hiram Herbert Williams	А	Putnam, Ct.
John Roles Williams	р	Baltimore, Md.
Roger Williams	р	Central Falls
James Walter Wilson	Р	Manchester, N. II.
Herman Aaron Winkler	р	Providence
Luke Augustus Woodbury	s	Nashua, N. H.
Cecil George Stratton Young	Р	Foxboro, Mass.
Philip Li Yuan	Р	Tientsin, China
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FRESHMEN: CLASS OF 1919

FRESHMEN: CLASS OF 1919

FRESH	HMEN:	CLASS
NAME		
Preston Ober Abbott		A
Clarence Raymond Adams		A
William Albrecht, Jr.		S
Frederick Richmond Allen		Р
Joseph Clifton Allen		Р
John Hull Almy		Р
Maurice Alpert		A
George Chester Ames		Р
Wilbur Reginald Anderson		Р
John Clifford Andrews		Р
Elijah Anthony, 2d		А
Howard Bartholomew Arnol	d	A
John Dean Avery		Р
Reginald Barry		Р
Morris Bazar		Р
William Chester Beard		Р
William Henry Beattie		Р
Robert Harold Beekman		Р
Merrill Kelly Bennett		Р
Bernard Bercu		Р
Lawrence Bradford Bixby		Р
Thomas Francis Black, Jr.		A
Edwin Laurine Blewer, Jr.		Р
Zenas Randall Bliss		Р
Pelham Winslow Bogert		Р
Charles Bolotow		A
Allen French Bowen		P
Earl Hartwell Bowen		Р
William Ernest Boyle		А
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Edward Donavan Brady		Р
Victor Amedee Brassard		А
Wilfred Warner Brouillette		А
Benjamin Williams Brown		А
Harrison Albert Brown		S
Malcolm Christopher Brown		А
Morris Henry Brown		Р

Alan Stewart Browne

Lemuel Howard Buckalew

Stanley Ward Burlingame

Elpidio Bucci

Providence Providence Providence Shreveport, La. Edgewood Providence Lonsdale Fall River, Mass. Fall River, Mass. Providence Dunkirk, N. Y. Uxbridge, Mass. Pawtucket Salem, Mass. Danielson, Ct. Providence Gouverneur, N. Y. Bridgewater, Mass. Chestnut Hill, Mass. Providence

Providence Port Norris, N. J. Providence

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RESIDENCE St. Louis. Mo. Eden Park New York, N.Y. Providence Nayatt Edgewood Fall River, Mass. Cortland, N.Y. Meriden. Ct. Providence Jamestown Providence Groton, Ct. Beverly, Mass. Providence Attleboro, Mass. Watercliet, N.Y. Edgewood Dayrille, Ct.

NAME	011111	RESIDENCE
Kenneth Nason Burnham	А	Hopedale, Mass.
Glenn Brigham Burt	P	Springfield, Mass.
Joseph Butterworth, Jr.	r A	Fall River, Mass.
Francesco Cali	P	Cleveland, Ohio
Caesar Thomas Cambio		Providence
Richard Elmer Edwin Campbell	S	
-	A	Providence North Colourd Mark
Warren Russell Campbell	S	North Cohasset, Mass.
Emilio Cappelli	Р	Providence
Louis Emillion Caster	Р	Chicago, Ill.
Frederick Rockwell Chamberlain	S	Plainfield, N. J.
Frank Lewis Chesley	P	Pawtuxet
Alton Charles Chick	s	Westbrook, Me.
Ki Kee Chun	s	Shanghai, China
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Donald Howland Clauss	Р	Providence
Percy Gordon Cliff	Р	West Somerville, Mass.
Daniel Wilcox Coggeshall	Р	Bristol
Jacob Cohen	Р	Providence
Joseph Cohen	Р	Somerset, Mass.
Harry Francis Coleman	S	Chicago, Ill.
Theodore Abel Collins	Р	Great Barrington, Mass.
Hugh John Connelly	А	Providence
Thomas Michael Conroy	Р	Cincinnati, Ohio
Everett Richardson Cook	A	Evanston, Ill.
Lawrence Mark Corcoran	Р	West Springfield, Mass.
James Bernard Corey	S	Pawtucket
William Critcherson	Р	Westerly
George Toomey Curry	s	Providence
Claude Boucher Davidson	р	Dorchester, Mass.
Chester Iral Dennis	p	Stockton, Cal.
Charles Francis Devine	P	Erie, Pa.
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Ralph Edwin Dexter	A	Eden Park
Archibald Moore Dodge	Р	Methuen, Mass.
Willis Bates Downey	A	Hingham Centre, Mass.
Clyde Driscoll	A	Livermore Falls, Me.
Arthur Warren Duryea	P	Roslindale, Mass.
	P	Providence
Henry Richard Mowbray Dutton	-	
James Saville Eastham	A	Methuen, Mass. Providence
Frank Edmund Eck	A	
Guyton Saxon Eddy	S	Barrington Centre
William Henry Edwards	A	Providence Wassesshet
Herman Lorenzo Emidy	Р	Woonsocket

NAME		RESIDENCE
Oliver Wendell Robert Erickson	А	Providence
Perry Edson Faunce	Р	Providence
Rudolph John Chauncey Fisher	A	Providence
Charles Mortimer Fort	Р	Providence
Sidney Albert Fox	A	Providence
Paul Wilbur Francis	Р	Middletown, Ct.
William McLeod Fraser	P	Providence
Oliver Addison Fuller	s	Providence
Rufus Clinton Fuller	А	Providence
Vincent Aloysius Gallagher	S	Providence
Edward Everett Gardner, Jr.	Р	Mount Vernon, N.Y.
Harold Franklin Gibling	s	Fall River, Mass.
Henry George Gilbert	Р	Danielson, Ct.
David Duncan Gilchrist	S	Summit, N. J.
Thomas Bartholomew Goldsmith	Р	West Springfield, Mass.
Mark Augustine Golrich, Jr.	s	Providence
James Joseph Gray	P	Pittsburgh
Joseph Harry Greenberg	A	Woonsocket
Herbert Wylie Greenhalgh	S	Providence
Harold Eugene Grover	P	Lynn, Mass.
John William Haley	A	Stonington, Ct.
John Joseph Hall	S	Providence
Ronald Prescott Hall	S	North Attleboro, Mass.
Henry George Harris	Р	New York, N.Y.
Mills Harris	Р	New York, N.Y.
Reginald Gordon Harris	S	Lowell, Mass.
Herbert Richard Hastings	Р	New York, N.Y.
Frederick Barber Heath, Jr.	Р	Kansas City, Mo.
Francis Thompson Hederman	Р	Webster, Mass.
Elmer Raymond Hering	Р	Hackensack, N. J.
Andrew Fitch Hillhouse	Р	Rutherford, N. J.
Alexander Tulloch Hindmarsh	Р	Providence
Douglas Albert Holyoke	A	Edgewood
Edward Howell, Jr.	Р	Morris Plains, N. J.
Standish Howland	Р	Providence
Charles Henry Huggins, Jr.	P	Providence
Lawrence Francis Hurley	A	Providence
Leroy John Irons	Р	Lakewood, N. J.
Merlin Edwin Jacobs	A	Boston, Mass.
James Lawrence Jenks, Jr.	A	Pawtucket
Albert Walker Johnson	S	Providence
Kenneth Dewey Johnson	A	East Milton, Mass.
Joseph Charles Johnston	Р	Providence

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NAME		RESIDENCE
Lawrence William Jordan	Р	White Plains, N.Y.
Herbert Clement Kemble	Р	Auburn, N.Y.
Edward Roscoe Kent	S	Providence
Francis Joseph King	Р	Woonsocket
William Aldrich King	Р	Woonsocket
Norwell Reed Kinney	Р	Methuen, Mass.
Herbert Piper Knowles	A	Wakefield
Alfred Clifton Koch	S	Bristol
Frederick Roland Kroener	S	Wakefield
David Ladd	s	Providence
Henri Landati	Р	Providence
Edgar Jewett Lanpher	A	Glen Ridge, N. J.
Frederick William Lathrop	A	Shelton, Ct.
Robert Augustus Lawder	A	Central Falls
Arthur Joseph Levy	Р	Providence
George Washington Lewis	Р	New Bedford, Mass.
Lester Trafford Lewis	Р	New Bedford, Mass.
Ogden Richardson Lindsley	Р	Pawtucket
Arnold Elias Lindstrom	Р	Jamestown, N.Y.
Robert Stephen Long	Р	Plattsburg, N.Y.
George Lubinsky	Р	Fall River, Mass.
George Stanislaus McCormick	Р	Providence
John Haskell MacDonald	Р	Providence
Thomas James McGovern	Р	North Attleboro, Mass.
Harvey Doane McGray, Jr.	Р	Somerville, Mass.
Webster MacMillan	P	Lawrence, Mass.
Howard Ripley McPeck	Р	Marion, Mass.
Daniel Allan MacPherson	Р	Providence
William Michael McSweeney	S	Springfield, Mass.
George Samuel Magee	А,	Providence
Pasquale Maiello	Р	Providence
Samuel John Mann	Р	Pavilion, N. Y.
Furber Ingram Marshall	Р	Newport
Stanley Hopkins Mason	Р	Providence
Frank Thorman Meyer	р	Jamestown, N. Y.
Donald Gordon Millar	А	Westwood, N. J.
Bradford Van Renssalear Moore	Р	Monticello, Ill.
William Moss	Р	Providence
Harold Raymond Moulton	Р	Pawtucket
Wallace Adams Moyle	А	New Haven, Ct.
Edwin Michael Murphy	Р	Lynn, Mass.
Ernest Eder Nelson	р	Ivoryton, Ct.
Elbert Perkins Nichols	р	Stepney Depot, Ct.

FRESHMEN: CLASS OF 1919

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Ralph Hall Nichols	Р	Darisville
Harry Norcross	Р	Lakewood, N. J.
Herman Lloyd Noyes	A	Marlboro, Mass.
Eugene William O'Brien	S	Riverpoint
James Lindley Palmer	А	East Providence
Robert Wood Parkinson	А	Providence
William Elmer Parmenter	А	Providence
Arthur Callistus Patrick	S	Provincetown, Mass.
Frederick Roger Paty	А	Plymouth, Mass.
Frederick Holroyd Paulson	P	Thornton
Charles Henry Peckham	А	Howard
Herbert Henry Pepler	s	Wauregan, Ct.
Fred Bartlett Perkins	A	Providence
Harlow Jerome Peters	Р	Jersey City, N. J.
Russell Mitchell Peters	Р	Providence
Earle Arthur Phillips	Р	Pawtucket
Bernard Brown Pierce	Р	Boston, Mass.
David Fessenden Pierce	Р	Somerset, Mass.
Frederick Douglas Pollard	Р	Chicago, Ill.
Edward Sefton Porter	А	Manchester, N. H.
John Sherman Prigge	А.	Jersey City, N. J.
James Philip Prosser	Р	Cleveland, Ohio
Clair Joseph Purdy	Р	Auburn, N. J.
Jacob Jay Putnam	Р	Worcester, Mass.
Wallace Everett Randall	Р	Providence
Marvin Whitman Ray	Р	Brookline, Mass.
Arthur Edward Redfern	А	Providence
Romeo Francis Regnier	s	Auburn
Alfred James Riani	S	Marlboro, Mass.
Hugh Robertson	Р	East Milton, Mass.
Daniel Robinson	S	Providence
Manuel Robinson	S	Central Falls
William Walker Russell	S	East Providence
Anthony Russo	Р	Brooklyn, N. Y.
Edward Bertie Ryder	S	Plainfield, N. J.
Charles Oswald Ryon	Р	Stonington, Ct.
Henry Tritton Samson	Р	New York, N. Y.
Benjamin Herman Saxen	Р	New York, N.Y.
Louis Schmidt	Р	Providence
James Chester Scott	Р	Jeffersonville, Pa.
Henry Raymond Searles	P	Pawtucket
Arthur Godfrey Sellen	P	Warren
Charles Brenden Shaughnessy	А	· Uxbridge, Mass.

Det Dico in		
NAME Due 11 Calada Charm		RESIDENCE Num Vanh M V
Donald Scholefield Shaw	S	New York, N.Y.
Howard Franklin Shawcross	Р	Greystone
Samuel Sanford Sheffield	A	Newport
William Herbert Sheldon, Jr.	A	Pawtuxet
George Ernest Shields	Р	Leominster, Mass.
Francis Lloyd Simons	Р	Pawtucket
Wilbert Bancroft Skerrye	A	Templeton, Mass.
Samuel Watson Smith	P	Cincinnati, Ohio
Edward Allen Spencer, Jr.	Р	Pittsburgh, Pa.
Ernest Leon Sperry	Р	Oak Lawn
Loue Eugene Stockwell	Р	Norwich, Ct.
Liston Bartlett Sweet	S	Oakland
Earle Linwood Swift	Р	Attleboro, Mass.
Solomon Tannenbaum	А	Providence
Samuel Temkin	Р	Providence
Frederick Wallace Thomas	Р	Providence
Alton Stewart Thoren	Р	Edgewood
Howard Wilson Tindall	Р	Dutch Neck, N. J.
Albert Joseph Tracy	Р	Uxbridge, Mass.
Walter Oliver Underkuffler	S	Haddon Heights, N. J.
Eldred Malcolm Van Riper	s	Bernardsville, N. J.
Charles Lincoln Vaughan	Р	Providence
Edward Peter Ventrone	Р	Providence
John Preston Verity	Р	Cambridge, Mass.
Henry Lawrence Vota	Р	Pawtucket
James Johnson Walker	А	Lakewood
Thomas Carr Watson	Р	Jamestown
Joshua Herbert Weeks	Р	New Bedford, Mass.
George Townsend Welch	A	Providence
Ashley Prince Westcott	А	Provincetown, Mass.
Edgar Edson Wheeler	Р	South New Berlin, N. Y.
William Edwin Wheeler	Р	Newton Centre, Mass.
Maynard Pressley White	S	New York, N. Y.
Henry Harold Whitman	Р	Marlboro, Mass.
Everett Allen Wight	Р	Fiskdale, Mass.
George Garland Wilcox	Р	Bristol, Ct.
Webb Westcott Wilder	S	Thornton
Leland Amidon Wildes	А	Eagleville, Ct.
William Thomas Wilkins, Jr.	P	Kingstree, S. C.
George Elmer Williams	S	Danielson, Ct.
Andrew Burnett Winsor	s	Johnston
James Lewis Woodruff	r	Bristol, Ct.
Courtney Parker Young	S	Providence

SPECIAL STUDENTS

SPECIAL STUDENTS

NAME

Sewell Woodberry Allison Josiah Bradley Buell George Raymond Burgess Angelo Americo Caldarone Malcolm Estern Carder Elmer Boynell Clark Robert Lawrence Coffey John Arnold Cranston James Albert Crumley, Jr. Walter Livingston Davol Henry Forrester Drake Claude Joseph Farnsworth William Barbour Farnsworth Henry Douglas Fryer Beale Mitchell Gordon Irving Turgle Gumb Lawrence Hall Francis Higgins Herbert Gordon Higgins Ephrem Adelard Hudon Lawrence Hudson Johnson Henry Blaine Kulp Thomas Henry Luther Henry Francis McCusker Peter Morrison McKay John Thomas McQuaid Howard Bennett Marble Joseph Henry Moore Ralph Henry Mullane James Russell Murphy Edwin Rupert Noel Warren Perham Norton John Francis Oslin Kenneth Safford Parker James Anthony Peirce Malcolm Edward Phillips **Richard Somerville Quigley** John Greene Rice Wayland Wilbur Rice Charles Edward Russell Albert Eduard St. Germain

RESIDENCE Rehoboth. Mass. Ann Arbor. Mich. Pantucket. Providence East Milton, Mass. Providence Partucket Providence Warwick East Providence Brooklum, N.Y. Providence Providence Providence Providence Lovell, Mass. Providence Providence Providence Providence Lynn, Mass. Pottstown, Pa. Providence Taunton, Mass. Providence Pantucket Plainville, Mass. Providence Dorchester, Mass. Providence Providence Waymart, Pa. Providence Janesville, Wis. Providence Taunton, Mass. Woonsocket Pawtucket Providence Lowell, Mass. New London, Ct.

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RESIDENCE Providence Springfield, Mass. Attleboro, Mass. Providence Providence Auburn, N.Y. Providence Thornton Brockton, Mass. Dighton, Mass. Haverhill, Mass. Providence Cambridge, Mass. New London, Ct. Providence Janesville, Wis.

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WALTER BALLOU JACOBS, A.M. Professor of Education; Director of University Extension ALBERT DAVIS MEAD, PH.D., Sc.D. Professor of Biology ALBERT KNIGHT POTTER, A.M. Professor of English ALBERT BUSHNELL JOHNSON, A.M. Associate Professor of the Romance Languages JOHN FRANCIS GREENE, A.M. Associate Professor of Roman Literature and History WILLIAM MACDONALD, Ph.D., LL.D. George L. Littlefield Professor of American History JOHN EMERY BUCHER, Ph.D. Newport Rogers Professor of Chemistry HENRY THATCHER FOWLER, PH.D. Professor of Biblical Literature and History LINDSAY TODD DAMON, A.B. Professor of English GEORGE WYLLYS BENEDICT, PH.D. Associate Professor of English THOMAS CROSBY, JR., A.M. Associate Professor of English and Public Speaking HENRY BARRETT HUNTINGTON, A.B. Associate Professor of English CAMILLO VON KLENZE, PH.D. Professor of the Germanic Languages and Literatures CHARLES WILSON BROWN, A.M. Associate Professor of Geology HERBERT EUGENE WALTER, PH.D. Associate Professor of Biology ROLAND GEORGE DWIGHT RICHARDSON, PH.D. Associate Professor of Pure Mathematics; Acting Director of the Ladd Observatory JAMES MARVIN MOTLEY, PH.D. Associate Professor of Economics CHARLES HERMAN HUNKINS, DR. UNIV. PARIS Assistant Professor of the Romance Languages and Literatures RAYMOND CLARE ARCHIBALD, Pn.D. Assistant Professor of Pure Mathematics

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HARLAN HARVEY YORK, PH.D.
Assistant Professor of Botany
WILLIAM THOMSON HASTINGS, A.M.
Assistant Professor of English
STEPHEN SHELDON COLVIN, PH.D.
Professor of Educational Psychology
ALFRED HARRISON JONES, PH.D.
Assistant Professor of Logic
ROBERT MCBURNEY MITCHELL, PH.D.
Assistant Professor of the Germanic Languages and Literatures
HAROLD EUGENE BIGELOW, PH.D.
Assistant Professor of Chemistry
ALBERT EDWARD RAND, PH.D.
Assistant Professor of the Germanic Languages and Literatures
KENDALL KERFOOT SMITH, PH.D.
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EDWIN ERNEST WILDE
Lecturer in Music
EDWIN ANGELL COTTRELL, A.M.
Lecturer in History
CLINTON HARVEY CURRIER, A.M.
Instructor in Mathematics
BERNARD ALOYSIUS KEENAN, A.M.
Instructor in German and French
M. ELIZABETH BATES
Instructor in Hygiene and Physical Education in the Women's College
FLORENCE HARRIS DANIELSON, A.M.
Instructor in Physiology and Household Economics in the Women's College; Acting Head of Miller Hall
ROY FOLLETT, A.B.
Instructor in English
BENJAMIN CROCKER CLOUGH, A.B.
Instructor in English

†On leave of absence during the academic year 1915-16.

JOHN SHAPLEY, PH.D. Instructor in Art. THEODORE HENRY BROWN, PH.D. Instructor in Mathematics HAROLD STEPHEN BUCKLIN, A.B. Instructor in Social Science EDOUARD MASSEY, B. ES LETTRES Instructor in French MARION KENNETH FORWARD, PH.B. Assistant in English HERBERT ELLIOTT FOOTE, PH.B. Assistant in Chemistry RALPH LEON BLANCHARD, A.B. Assistant in English **RAYMOND ABNER PRESTON, A.B.** Assistant in English BLANCHE NATHALIE DAVIS Director of Chapel Music MARY GILMAN AHLERS Head of West Cottage

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ORGANIZATION OF THE WOMEN'S COLLEGE

INSTRUCTION for undergraduate women \ddagger is provided by a department of the University known as THE WOMEN'S COLLEGE IN BROWN UNIVERSITY. The aim of the Women's College is to offer to all properly prepared women

[‡] In the Graduate Department of Brown University all courses intended for graduate students are open to women on the same terms as to men.

the same examinations, the same courses of study under the same teachers, and the same degrees that the University offers to men, but to preserve the distinct social life of a separate college.

The Corporation of the University has supervision and control of the Women's College as of other departments of the University, and for this purpose appoints annually an Executive Committee of the Women's College. The President of the University is charged with the general direction, supervision, and government of this College as of other departments of the University. The immediate direction, supervision, and control devolve, subject to the direction of the President, on the Dean of the Women's College. An Advisory Council, appointed under the authority of the Corporation, advises with the President and the Dean upon matters relating to the Women's College, and makes recommendations to the Executive Committee of the Women's College or to the Corporation. The immediate administration of the social life of the College, subject to the President of the University and the Dean of the College, rests with the Student Government Association, which also has charge of absences from college exercises.

The Faculty of the Women's College is composed of the heads of all departments of instruction in Brown University, together with all professors and instructors who are actually teaching in the College.

Bulletins of the Women's College may be obtained from the Registrar, The Women's College in Brown University, Providence, R. I. For information not contained in this Catalogue or in the Bulletins, apply to the Dean of the Women's College, Pembroke Hall, Providence, R. I.

ADMISSION TO THE WOMEN'S COLLEGE

REQUIREMENTS FOR ADMISSION

THE requirements for admission to the Women's College are the same as those which the University prescribes for men. For information concerning admission by certificate or examination, and the times and places of examinations, see pages 30-32. Certificates and applications for permission to take examinations should be sent to the Registrar of the University. For the entrance requirements for the various degrees, admission to advanced standing, and admission of special students, see pages 33-52. Each applicant for registration as a special student must consult the Dean of the Women's College before registering.

REGISTRATION AND ENROLMENT

The regulations governing registration and enrolment are the same at the Women's College as at the University. (See pages 51, 52.) All students must apply for registration and enrolment at the office of the Registrar of the Women's College, in Pembroke Hall, between 9 a.m. and 12 m., or between 2 p.m. and 4 p.m., on either of the two days preceding the opening of College. Permission to change a previous registration must be obtained from the Dean, on the same days and at the same hours.

REQUIREMENTS FOR DEGREES

The requirements for the various degrees are explained on pages 53-66. Upon students of the Women's College who complete satisfactorily the work leading to the degree of Bachelor of Arts, Bachelor of Philosophy, or Bachelor of Science, the Board of Fellows of the University confers the appropriate degree. For the degrees conferred in 1915, see pages 196-199.

FEES

Students at the Women's College pay the tuition fee of \$150 in two instalments: \$75 upon registration in September and \$75 upon registration in February. Freshmen pay a matriculation fee of \$5 upon registering in September. No deduction in tuition is made on account of absence. Laboratory fees, etc., must be paid two weeks before the close of a semester.

Special students at the Women's College are charged \$15 a semester for each course holding three recitations a week. Laboratory fees are in addition to this.

COURSES OF INSTRUCTON

COURSES designated by a † are given at the University; a limited number of approved women students may be admitted to these courses upon application to the Dean of the Women's College. Women are also admitted to certain other University courses not announced here with the special permission of the department and with the consent of the Dean of the Women's College. In courses designated by a * a final mark covering the work of the course as a whole is given at the end of the course, the mark given at the end of the first semester being regarded as temporary.

With the exception of Biology 1, 2, Greek Literature and History 20, History 13, 14, Roman Literature and History 3, and Hygiene and Physical Education, courses offered to women are identical with corresponding courses offered to men. Detailed information may be found on pages 74-147. The officers of instruction are those conducting courses for men also, with the addition of :

LIDA SHAW KING, A.M., LITT.D., LL.D., Professor of Classical Literature and Archaeology

M. ELIZABETH BATES, Instructor in Hygiene and Physical Education FLORENCE HARRIS DANIELSON, A.M., Instructor in Biology EDWIN ANGELL COTTRELL, A.M., Lecturer in History

ART

1, 2. History of Art from Antiquity through the Renaissance Dr. SHAPLEY. Tu., Wed., Sat., at 9.25.

[3, 4. Modern Art, and Theory and Criticism of the Fine Arts] Not offered in 1915-16.

15,* 16.* Freehand Drawing

Given at the Rhode Island School of Design. Hours to be arranged with the Director.

17,* 18.* Advanced Drawing Given at the Rhode Island School of Design. Mon., Tu., Wed., at 2.

ASTRONOMY

[1, 2. General Course]
Not offered in 1915–16. To be offered in 1916–17.
[7, 8. † Advanced Astronomy]

Not offered in 1915-16.

BIBLICAL LITERATURE AND HISTORY

1, 2. † Elementary Hebrew

11, 12. † Gospels and Epistles

[13, 14. † Acts and Pauline Epistles] Not offered in 1915–16.

15, 16. † Biblical History

19, 20. The English Bible as Literature Professor Fowler. Tu., Wed., Sat., at 9.25.

21, 22.* + Biblical Seminary

30. + History of Religion

BIOLOGY

1, 2. General Biology Miss DANIELSON. Wed., Fri., Sat., at 11.25.

3, 4. Comparative Anatomy of Vertebrates Professor WALTER. Wed., Fri., Sat., at 11.25.

[5, 6.† Anatomy of the Nervous System] Not offered in 1915-16.

7, 8. Embryology and Histology Professor MEAD. Mon., Tu., Th., at 2.25.
9, 10. † Advanced Histology and Pathology
11, 12. † General Physiology
13, 14. † Chemical Physiology
16. † Bacteriology
17, 18. † Advanced Bacteriology
20. Ornithology Professor WALTER.
22. † Evolution
[24. † Physiology] Not offered in 1915-16.

BOTANY

1, 2. General Course Professor YORK. Tu., Th., Sat., at 12.25.

3, 4. † Physiological Anatomy
5, 6. † Comparative Morphology and Phylogeny

7, 8. † Special Course

[10. *Trees*] Not offered in 1915-16.

[11, 12. † *Physiology*] Not offered in 1915–16.

13, 14. † Plant Pathology

CHEMISTRY

1, 2. Descriptive Chemistry Professor BUCHER and Mr. FOOTE. Tu., Th., Sat., at 12.25.

3, 4. + Qualitative and Quantitative Analysis

5, 6. + Quantitative Analysis, Advanced Course

7, 8. † Organic Chemistry

10. † Assaying

12. † Organic Dyes

15, 16. † Physical Chemistry

20. + Inorganic Chemistry, Advanced Course

21, 22. + Organic Preparations, Advanced Course

23, 24. † Inorganic Preparations, Advanced Course

27, 28. + Conference on Special Topics in Chemistry

ECONOMICS ‡

1. Elementary Economics Professor Motley. First semester. Followed in the sec

First semester. Followed in the second semester by Social or Political Science 1. Tu., Th., Sat., at 12.25.

5, 6. † Money and Banking

8. Socialism and Allied Movements Professor Motley. Second semester. Tu., Fri., Sat., at 10.25.

9.† Tariff, Reciprocity, and Shipping Subsidies

11, 12.⁺ Public Finance and Financial History

 \ddagger Courses in Economics marked with a \dagger are open to undergraduates if elected by three or more students.

13.⁺ Statistics

14. † Accounting

15.⁺ Trade and Transportation

[16. Corporations and Corporation Finance] Not offered in 1915-16. To be offered in 1916-17.

21, 22.[†] Investigation of Special Topics

23, 24. † Economic Seminary

EDUCATION

2. Principles of Education Professor JACOBS. First semester. Mon., Wed., Th., at 10.25.

1. History of Education Professor JACOBS. Second semester. Mon., Wed., Th., at 10.25.

3. Psychology of Education Professor COLVIN. First semester. Mon., Th., Fri., at 9.25.

4. Practical Introduction to Teaching Professor COLVIN. Second semester. Mon., Th., Fri., at 9.25.

ENGLISH

1. Rhetoric and Composition Professor HASTINGS, Messrs. CLOUGH, FORWARD, and BLANCHARD. First semester. 1st and 2d div., Mon., Th., Fri., at 9.25.

2. Rhetoric and Composition Professor HASTINGS, Messrs. CLOUGH, FORWARD, and BLANCHARD. Second semester. 1st div., Tu., Wed., Sat., at 9.25; 2d div., Mon., Tu., Th., at 3.25.

48. English Literature from the Beginning to 1700 Professor BENEDICT and Mr. PRESTON. Second semester. Mon., Th., Fri., at 9.25.

49. English Literature from 1700 to 1900 Professors BENEDICT and HASTINGS, Mr. PRESTON. First semester. 1st div., Tu., Wed., Sat., at 9.25; 2d div., Mon., Tu., Th., at 3.25.

5, 6. English Composition, Advanced Course Mr. Follett. Mon., Fri., at 9.25.

[7, 8. Argumentative Composition] Not offered in 1915-16. To be offered in 1916-17.

[11, 12. Public Speaking] Not offered in 1915-16.

15, 16. † Old English

17, 18. Chaucer Professor Potter. Tu., Th., Fri., at 2.25.

23, 24. The Modern English Drama Professor CROSBY. Tu., Fri., Sat., at 10.25.

25, 26. Shakspere Professor POTTER. Tu., Wed., Sat., at 9.25.

[27, 28. Shakspere] Not offered in 1915–16.

[29. English Literature, exclusive of the Drama, from 1558 to 1603] Not offered in 1915-16.

[30. English Literature, exclusive of the Drama, from 1603 to 1660] Not offered in 1915–16.

[31, 32. English Literature from 1660 to 1798] Not offered in 1915–16.

[33, 34. The English Novel] Not offered in 1915-16.

35. English Literature from 1798 to 1832, Poetry Professor HUNTINGTON. Mon., Tu., Th., at 11.25.

36. English Literature from 1798 to 1832, Prose Professor HUNTINGTON. Mon., Tu., Th., at 11.25.

[37. English Literature from 1832 to 1892, Prose] Not offered in 1915-16.

[38. English Literature from 1832 to 1892, Poetry] Not offered in 1915-16.

[39, 40. American Literature] Not offered in 1915–16.

43, 44.⁺ Seminary in English Literature Professors POTTER and BENEDICT.

GEOLOGY

[1. General Geology] Not offered in 1915-16.

[6. Economic Geography and Conservation] Not offered in 1915-16.

9, 10. + Mineralogy and Petrography

11, 12. + Research in Geology and Geography

GERMANIC LANGUAGES AND LITERATURES

1, 2. Elementary Course, First Year Professor CROWELL. Mon., Wed., Fri., at 12.25. [3, 4. Elementary Course, Second Year] Not offered in 1915–16.

5, 6. Intermediate Course Mr. KEENAN. Mon., Wed., Fri., at 12.25.

7, 8. Advanced Course in Standard Authors, Classical and Modern Professor RAND. Mon., Wed., Fri., at 12.25.

9, 10. Modern Prose Professor MITCHELL. Mon., Wed., Fri., at 12.25.

[11, 12. German Lyrical Poetry] Not offered in 1915-16.

13, 14. The German Short Story Professor von Klenze. Mon., Wed., Fri., at 12.25.

[15, 16. The German Drama of the Nineteenth Century] Not offered in 1915–16.

17, 18. † Lessing and Schiller

[23, 24. † Goethe: A Study of His Life and Works] Not offered in 1915-16.

[25, 26. † Outline History of German Literature] Not offered in 1915–16.

27, 28. + German Literature in the Nineteenth Century

[31. † Gothic] Not offered in 1915-16.

[32. † Old High German] Not offered in 1915–16.

33, 34. † Old Norse and Germanic Mythology

35, 36. † Middle High German

GREEK LITERATURE AND HISTORY

A, B. Elementary Course Professor SMITH. Mon., Tu., Th., at 11.25.

[1. Homer and the Greek Anthology] Not offered in 1915-16.

[2. Plato, Lysias, and Aristophanes] Not offered in 1915–16.

3. Lucian and the Dramatic Poets Professor Allinson. First semester. Mon. at 9.25; Wed., Fri., at 12.25.

4. The Historians Professor SMITH. Second semester. Mon. at 9.25; Wed., Fri., at 12.25.

[5. The Drama] Not offered in 1915–16.

[6. Literature of Athenian Imperialism: Thucydides, Aristophanes, Isocrates, Andocides] Not offered in 1915-16.

[7. Epic Poetry] Not offered in 1915-16.

[8. Plato and Aeschylus] Not offered in 1915-16.

[9. Demosthenes] Not offered in 1915-16.

[12. Greek Composition] Not offered in 1915–16.

15. Greek Civilization Professor Allinson. Second semester. Mon., Tu., Th., at 11.25.

17, 18. + Greek Seminary

20. Introduction to Greek Archaeology

Outline of the remains of the earliest Greek civilization; an introductory study of Greek vases, coins, small bronzes, and terra-cotta figurines. Intended to give a general survey of these sources for Greek history and life. Illustrated lectures; collateral reading. *Professor* KING.

Three hours. Second semester. Elective for students who have completed one course in Latin or Greek. Mon., Th., Fri., at 9.25.

HISTORY

1, 2. Medieval and Modern History of Europe Professor Collier. Mon., Tu., Th., at 11.25.

[3.[†] History of Christianity: Early and Medieval Period] Not offered in 1915–16.

[4. † History of Christianity: From the Reformation to the present] Not offered in 1915–16.

5. The French Revolution and the Napoleonic Era Professor Collier. Tu., Wed., Sat., at 9.25.

6. Europe since 1815 Professor Collier. Tu., Wed., Sat., at 9.25.

[7. English History to 1603] Not offered in 1915-16.

[8. English History, 1603 to the present] Not offered in 1915-16.

11, 12. † Seminary in European History

13, 14. American History Mr. Cottrell. Mon., Wed., Fri., at 12.25.

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[15, 16. † Constitutional and Political History of the United States] Not offered in 1915–16.

17, 18. † Seminary in American History
19, 20. † American History to 1787
21, 22. † The United States under the Constitution

MATHEMATICS

2. Plane Trigonometry Professor RICHARDSON and Mr. CURRIER. First semester. Tu., Fri., Sat., at 10.25.

1. Solid and Spherical Geometry Professor RICHARDSON and Mr. CURRIER. Second semester. Tu., Fri., Sat., at 10.25.

3. Algebra Professor ARCHIBALD. Second semester. Mon., Wed., Fri., at 12.25.

5. Plane Analytic Geometry Professor ARCHIBALD. First semester. Mon., Wed., Th., at 10.25.

6. Analytic Geometry and Differential Calculus Professor ARCHIBALD. Second semester. Mon., Wed., Th., at 10.25.

7, 8. Differential and Integral Calculus Dr. BROWN. Mon., Th., Fri., at 9.25.

9. † Differential Equations

11. † Analytic Geometry of Three Dimensions

12. † Modern Analytic Geometry
21, 22. † Function Theory of a Complex Variable

[23, 24. † Differential Equations, Advanced Course] Not offered in 1915–16.

[25, 26. † Advanced Algebra] Not offered in 1915-16.

[27, 28. † *Projective Geometry*] Not offered in 1915-16.

29, 30. + Function Theory of a Real Variable

[31, 32. † Applications of Calculus to Geometry] Not offered in 1915–16.

41, 42. Fundamental Problems of Algebra Professor MANNING. Mon., Wed., Fri., at 12.25.

[43, 44. Foundations, Methods, and Problems of Geometry] Not offered in 1915-16.

MUSIC

1, 2. The Appreciation of Music Mr. WILDE. Mon., Tu., Th., at 11.25.

PHILOSOPHY

1, 2. Introduction to Philosophy Professor JONES. Mon., Tu., Th., at 11.25.

3. Psychology Professor Delabarre. Through the year. Tu., Fri., Sat., at 10.25.

[4. *Ethics*] Not offered in 1915–16.

5, 6. † Psychology, Intermediate Course

7, 8. History of Philosophy Acting Professor EWER. Mon., Wed., Th., at 10.25.
[9. Philosophy of Religion] Not offered in 1915-16.
10. † Applications of Psychology
11, 12. † Experimental Psychology, Introductory Laboratory Course
13, 14. † Current Tendencies in Philosophy
17, 18. † Psychology, Advanced Course
19, 20. † Experimental Psychology, Advanced Laboratory Course
21, 22. † Advanced Ethics
[23, 24. † Philosophical Seminary] Not offered in 1915-16.

PHYSICS

 1, 2. Elementary Physics Professor BARUS. Mon., Tu., Th., at 11.25.
 3, 4. † Elementary Physics, continued
 5, 6. † Experimental Physics
 7, 8. † Mathematical Treatment of Dynamical Problems
 9, 10. † Mathematical Theory of Electricity and Magnetism
 11, 12. † Advanced Laboratory Course
 13, 14. † Applied Harmonic Analysis and Applied Vector Analysis
 15, 16. † Physics, Advanced Course
 23, 24. † Precision Measurements in Photometry, Electricity, and Magnetism

25, 26. † Radiation, Optics, and Heat

ROMAN LITERATURE AND HISTORY

1. Livy Professor GREENE. First semester. Mon., Tu., Th., at 2.25.

2. Cicero's Letters Professor GREENE. Second semester. Mon., Tu., Th., at 2.25.

3. Catullus and Virgil Professor King. First semester. Tu., Fri., Sat., at 10.25.

4. Horace's Satires and Epistles, Juvenal Professor HARKNESS. Second semester. Tu., Fri., Sat., at 10.25.

5, 6. Latin Poetry Professors HARKNESS and GREENE. Tu., Th., Sat., at 12.25.

[7, 8. Latin Prose] Not offered in 1915-16.

[11, 12. Latin Composition] Not offered in 1915-16.

16. Roman Civilization Professor GREENE. First semester. Mon., Tu., Th., at 11.25.

ROMANCE LANGUAGES AND LITERATURES

1, 2. Elementary Course, First Year Mr. MASSEY. Mon., Wed., Th., at 10.25.

5, 6. Intermediate French Professor HUNKINS. Mon., Wed., Th., at 10.25.

7, 8. Advanced French Professor Johnson. Tu., Wed., Sat., at 9.25.

9, 10. † The Realistic School

[11, 12. The Romantic School] Not offered in 1915-16.

13, 14. The Classical School Professor LANGDON. Tu., Wed., Sat., at 9.25.

15, 16. + Modern Spanish

[17, 18. Modern Italian] Not offered in 1915–16.

19, 20. Dante in English Professor LANGDON. Wed., Fri., Sat., at 11.25.

21, 22. + Spanish Language and Literature

23, 24. Practice in Writing and Speaking French Professor JOHNSON. Mon., Wed., Th., at 10.25.

SOCIAL AND POLITICAL SCIENCE

SOCIAL SCIENCE

1. Elementary Social Science Professor DEALEY. Second semester. Tu., Th., Sat., at 12.25.

3, 4. Social Problems, Movements, and Agencies Professor DEALEY and Mr. BUCKLIN. Wed., Fri., Sat., at 11.25.

7. † Sociology as a Science

8. † Sociology in its Applications

[11, 12. † Seminary in Sociology] Not offered in 1915-16.

13, 14. † Social Investigation and Training

POLITICAL SCIENCE

[1. *Elementary Political Science*] Not offered in 1915-16.

[3. Government and Politics of the United States] Not offered in 1915-16.

[4. Municipal Governments] Not offered in 1915-16. To be offered in 1916-17.

HYGIENE AND PHYSICAL EDUCATION ‡

M. ELIZABETH BATES, Instructor in Hygiene and Physical Education HOPE SISSON ROUNDY, A.B., Assistant in Sports

1. Freshman Course

In the fall and spring, sports. From Thanksgiving to the Spring recess, gymnastics, games, dancing, reading, and conferences in practical hygiene. *Miss* BATES.

Three hours. Through the year. Required of all Freshmen. Mon., Tu., Th., at 3.25.

2. Sophomore Course

Similar to the Freshman course, but more advanced. Miss BATES. Three hours. Through the year. Required of all Sophomores. Mon., Tu., Th., at 2.25.

3. Senior and Junior Course

Similar to the Sophomore course, but more advanced. Sports may be substituted for gymnastics during the winter. *Miss* BATES.

Three hours. Through the year. Elective for Seniors and Juniors in 1915-16.

‡ For further information about the Department of Hygiene and Physical Education.see page 253.

4. Play Course

Play, games, and folk-dances suitable for elementary schools, playgrounds, and social settlements. Miss BATES.

One hour. From Thanksgiving to the Spring recess. Elective for all students. Fri. at 3.25.

In 1916 and 1917 approved exercises under the supervision of the department will be required of Juniors. In 1917 and 1918 and thereafter this requirement will hold for both Juniors and Seniors.

PRIZES, PREMIUMS, AND HONORS

- THE GASPEE CHAPTER DAUGHTERS OF THE AMERICAN REVOLUTION PRIZE. This prize of forty dollars is awarded annually to that student in the graduating class of the Women's College who shall present the best essay of recognized merit upon some topic in American history. The essays are to bear each an assumed name, and to be accompanied by an envelope marked with the assumed name and inclosing the candidate's real name and address. The essays must be handed to the Dean before May 15. The award is announced at Commencement. The subject for 1915-16 is: The Sources and Growth of the Population of Rhode Island in the Eighteenth Century.
- THE CHACE PRIZE. The will of Mrs. Elizabeth D. Chace makes provision for a prize of twenty-five dollars, to be awarded to that student of the Women's College who shall present the best essay, of recognized merit, upon the Women's Suffrage Movement. The essays must be handed to the Dean before May 15.
- THE SOCIETY OF COLONIAL DAMES PRIZE IN AMERICAN HISTORY. The income of a fund of fifteen hundred dollars, known as the Roger Williams Fund established by the National Society of Colonial Dames in the State of Rhode Island and Providence Plantations, given to the University in 1906, is awarded annually as a prize for the best essay on a subject in American colonial history. The competition is open to Juniors, Seniors, and Graduates, and to men and women on equal terms. Essays must show independent use of authorities, and should, in general, extend to at least four thousand words. Detailed regulations governing the competition are announced from year to year. The award is announced at Commencement. The essays must be handed to the Dean before May 15. The subject for 1915–16 is : A History of King Philip's War.
- THE EDVTHE PECK ADAMS PRIZE. This prize is offered by the Class of 1901 for the best short story written by an undergraduate of the Women's College. The essays must be handed to the Dean before May 15.

ADDITIONAL PREMIUMS. The students of the Women's College are entitled to

compete in all examinations for premiums and prizes offered in Brown University. In case any woman is entitled to a first premium, competed for by examination, a prize, the amount of which is duly announced, is awarded by the Dean.

FINAL HONORS are awarded by the University to women on the same conditions as to men. (See pages 194, 195.)

PRIZES AND PREMIUMS AWARDED IN 1915

The Gaspee Chapter Daughters of the American Revolution Prize, to IRENE CELINE DOUGHERTY

The Chace Prize to

IRENE CELINE DOUGHERTY

- The Edythe Peck Adams Prize to SARAH NEWCOMB GALLAGHER
- A collateral first premium in Greek to

Almira Bashford Coffin

- A collateral first premium in preparatory Mathematics to MARY ELIZABETH CARROLL, instructed in the High School, New Bedford, Mass.
- A collateral first premium in preparatory German to MARY GLADYS MAHONEY, instructed in the Classical High School, Providence.
- A collateral first premium in preparatory French to MARY ELIZABETH CARROLL, instructed in the High School, New Bedford, Mass.

FINANCIAL AID TO STUDENTS

FELLOWSHIPS AND SCHOLARSHIPS

The EMMA JOSEPHINE (AVER) ARNOLD ARCHAEOLOGICAL FELLOWSHIP, of ten thousand dollars, founded by Dr. Oliver H. Arnold in memory of his wife; the income is awarded, first, to a member of the graduating class, or, second, to a graduate of not more than ten years' standing, who is adequately prepared for post-graduate work in Archaeology, either Classical or Oriental, and who through scholarly attainments and by habits of zealous and diligent study gives great promise of a useful and successful career. The income is to be applied to the expenses of a one, two, or three year course in Archaeology either in the United States or in any foreign country. In case there is no applicant of sufficient merit among the alumnae, the Fellowship is to be awarded for one year to an alumnus of the University who meets the above requirements. If there are no applicants for the use of this Fellowship in

THE WOMEN'S COLLEGE

Archaeology, it is to be given for one year of post-graduate work in Higher Mathematics to an alumna who has exceptional ability and intends to follow the teaching of Mathematics as a profession. Applications for this fellowship should be accompanied by academic records, testimonials as to character, ability, and health, specimens of written work, and a statement of the applicant's plan of work, and should be sent to Dean King before January 1, 1916.

- THE SARAH E. DOYLE SCHOLARSHIP, of one thousand dollars, which bears the name of its founder; the income is applied toward the payment of the tuition of students in the Women's College who have been prepared for college in the Providence English High School.
- THE SARAH SUTTON SCHOLARSHIP, of one thousand dollars, founded by one of her daughters.
- THE DANIELS SCHOLARSHIP, of twenty-five hundred dollars; the income to be used toward paying the expenses of one or more women pursuing studies either in the University or in the Women's College.
- THE HOWARD SCHOLARSHIP, of one thousand dollars, presented by James Leland Howard.
- THE THAYER SCHOLARSHIP, founded by Edward C. Thayer, in honor of his father, Joseph Thayer, of the class of 1815; the income to be for the education of any young man or woman, a resident of Uxbridge, Mass., indorsed by the selectmen and superintendent of schools there, needing pecuniary aid, and giving promise by character and scholarship of a life of usefulness. If there is no applicant from Uxbridge, the income may go to any applicant from Massachusetts who fulfils the conditions.
- THE MARIA STORRS PECK SCHOLARSHIP, of one thousand dollars, presented by her sisters.
- THE ELI THAYER SCHOLARSHIP OF THE OREADS, of three thousand dollars, founded by the Oread Collegiate Institute Association, in memory of the Hon. Eli Thayer, the founder of the Institute; the income to be for the education of a deserving student in the Women's College, preferably a descendant of a former student of the Institute.
- THE WILLIAM FULLER AYER SCHOLARSHIPS, two of two thousand dollars each, one of one thousand dollars, founded by Dr. Oliver H. Arnold in memory of William Fuller Ayer; the income is given "to poor and deserving students showing diligence and marked ability in their collegiate studies."
- THE DAVID W. HOYT SCHOLARSHIP, of twenty-seven hundred dollars, founded by the Alumni Association of the Providence English High School; the income to go each year to some young man or woman designated by the Principal or the Acting Principal, for the time being, of the Providence High

School, subject to the approval of the President or the Acting President, for the time being, of Brown University.

THE CHURCHILL FUND, with an annual income of eighty dollars, founded by the Rhode Island Women's Club; the income to go each year to some student in the Women's College, preferably the daughter of a member of the Club.

Reduction in tuition fees is made by the College to a certain number of students, provided they are in need of such aid and maintain a high standard of scholarship. Application for reduction of tuition fees should be made in writing to the Dean of the Women's College on or before May 1.

THE LOAN FUND

The Loan Fund, established and maintained by the Rhode Island Society for the Collegiate Education of Women, is available for the use of Sophomores, Juniors, and Seniors, who may borrow moderate sums at a low rate of interest. Further information may be obtained from the Dean of the Women's College.

THE SELF-SUPPORT COMMITTEE

The Self-Support Committee has for its purpose the care of students who need to earn money. It aims to secure employment for students, to regulate as far as possible the compensation and the conditions of outside work, and to make the amount of such work commensurate with the physical and mental strength of the student.

THE COLLEGE BUILDINGS

THE Women's College has a separate recitation hall, gymnasium, dormitories, basket-ball and tennis grounds; but uses the various libraries, laboratories, and museums of the University. For a description of these latter buildings, see pages 155-166. The grounds of the Women's College are an eighth of a mile from the University, with the main entrance at 179 Meeting Street. Pembroke Hall, the recitation building, contains the offices of the Dean and the Registrar, the chapel, recitation rooms, a reading room and a library, a study, and a lunch room. Sayles Gymnasium contains the office of the Instructor in Hygiene and Physical Education, a large hall with a gallery, two rest rooms, a room for corrective work, and a social room; the basement is fitted with dressing rooms, lockers, bathrooms, needle and shower baths, and bowling alleys.

The College has two dormitories. Miller Hall, 118 Cushing Street, contains forty-eight single rooms for students, together with a library, and reception,

dining, and sitting rooms. The charges for room and board vary from \$260 to \$270 a year. West Cottage, 98 Cushing Street, contains eight double rooms, one single room, and one room for three students, together with a recitation room and a dining room. It is a coöperative house, the housework being done by the students. The charge for room and board is \$4 per week. Printed plans of the dormitories, together with other information, may be obtained from the Dean of the Women's College.

Students who cannot secure rooms on the campus are required to live in houses approved by the College.

PROVISION FOR WORSHIP, HEALTH, AND RECREATION

CHAPEL

CHAPEL services, with special speakers and with music furnished by the College choir, are held in Pembroke Hall four days a week. Attendance is required.

HYGIENE

The Department of Hygiene and Physical Education aims to encourage habits of healthful living, with special emphasis upon proper posture and carriage, rational exercise, and rest. To this end all new students are required to attend lectures in Hygiene; conferences are held from time to time; physical examinations are given before the assignment of exercise and at the end of the year by the Instructor in Hygiene and by Dr. Frank T. Fulton; facilities are provided for exercise and rest; and there is a reference library of books on simple practical hygiene. Students who carry extra academic hours, or who are engaged in self-support work, or who, because of their organic condition or temporary disability, are unable to take the regular class work, are given restricted gymnastics, games, and dances, or prescribed periods in the rest room, as a substitute. Outdoor sports also are supervised by the Instructor in Hygiene.

STUDENT ORGANIZATIONS AND ENTERTAINMENTS

The Christian Association conducts weekly meetings, generally addressed by some speaker of experience; provides classes for the study of the Bible and of missions; and maintains an Employment Bureau which works with the Self-Support Committee to secure employment for students. There are French, German, Philosophical, Mathematical, and Debating Clubs, which carry on their

work in connection with the academic departments concerned. The College Forum gives an opportunity to all students for open discussion of the important questions of the day, under the leading of competent men and women. The Question Club, a society composed of the presidents of all the large student organizations, is helpful in forming opinion on matters of student interest. There are two undergraduate publications, The Sepiad, a literary periodical, and The Brun Mael, an annual review of College life. Interest in the drama and music is fostered by a dramatic society, a glee club, and a mandolin club; by the annual presentation of an original Sophomore masque; and by an annual song contest between the classes. The Athletic Association coöperates with the Department of Hygiene by arranging bowling, tennis, and basket-ball tournaments. The class organizations, an all-college society, and an advisory system, whereby each Senior is given responsibility for the welfare of a Freshman. promote sociability and the spirit of helpfulness. The accounts of all undergraduate organizations are under the control of auditors appointed by the Department of Mathematics.

Lectures, concerts, and other entertainments are provided from time to time by the College.

FORM OF BEQUEST

All gifts, legacies, and bequests for the Women's College should be made payable to "Brown University, in Providence, in the State of Rhode Island and Providence Plantations," and designated for the use of the Women's College.

STUDENTS IN THE WOMEN'S COLLEGE

SENIORS : CLASS OF 1916

NAME		RESIDENCE
Madeleine Frances Bannon	A	Providence
Marjorie Denison Barber	Р	Westerly
Ruth Barton	Р	Centerville
Sara Wilhelmina Bennett	A	North Providence
Emma Lillian Black	Р	Providence
Martha Marietta Burgess	Р	North Scituate
Helen Rowland Burr	A	Providence
Mary Regina Butler	Ā	Pawtucket
Albertine Louise Butts	А	Providence
Esther Clarissa Cook	A	Woonsocket
Margaret Frances Corey	A	Pawtucket
Elsie Wild Cushing	A	North Providence
Edith Chace Davis	A	Chepachet
Helen Gertrude Douglas	Р	Concord Junction, Mass.
Sadie Jane Duguid	Р	North Grafton, Mass.
Edith Violet Edwards	Р	Providence
Marion Gray Evans	А	Jefferson, N. H.
Lily Mary Faust	A	Cranston
Sarah Newcomb Gallagher	A	East Greenwich
Helen Dudley Hartwell	A	Providence
Mabel Frances Hull	P	Auburn
Emma Frances Jenkins	p	Oak Lawn
Vivian Mildred Lewis	A	Providence
Elizabeth Eddy Little	A	Edgewood
Mary Edgarton Longley	P	Worcester
Margaret Mary McGonagle		Pantucket
Margaret Gammell Meader	A.	Providence
Mary Eleanor Moore	P	Southington, Ct.
Mary Imelda O'Brien		Providence
Marion Gertrude O'Day	A	Worcester, Mass.
Ethel Page	A	Partucket
Ruth Caroline Paine	A	Apponaug
Pauline May Pearce	P	Providence
Elsie Embley Pickles	P	Providence
Alice Olney Randall	Å	Providence
Annie Evelyn Rathbun	A	Anthony
Emilie Lissette Sam	A	Providence
Rebecca Rogers Snow	P	Partucket

NAME		RESIDENCE
Edith Marguerite Sprague	А	Palmyra, Mich.
Marion Elizabeth Stark	A	Norwich, Ct.
Marian Sweet	• A	Providence
Pearle Lee Temple	А	Providence
Clara Mabel Thompson	А	Providence
Helen Marguerite Thompson	А	Pawtucket
Marian Marsh Torrey	А	Providence
Adele Madeleine Wildes	A	Edgewood
Gladys Evelyn Winsor	А	Providence
Alice May Wood	А	Providence

JUNIORS: CLASS OF 1917

Annie Alvira Adams	А	North Attleboro, Mass.
Sarah Ella Angell	Р	Providence
Annie Allen Averill	Р	Pomfret Centre, Ct.
Hazel Marjorie Blaisdell	А	East Franklin, Me.
Mildred Edith Bliss	А	Providence
Margaret Elizabeth Carr	А	Newport
Eunice Elizabeth Chace	А	No. Attleboro
Helen Liefter Cohen	А	Reading, Pa.
Amanda Elsie Collette	Р	Fisherville, Mass.
Marjorie Cotton	А	Providence
Mary Drusilla Flather	Р	Lowell, Mass.
Ruth Harvey Hall	А	Plainfield, Ct.
Mabel Eunice Harrington	А	Providence
Grace Ethel Hawk	А	Reading, Pa.
Dorothy May Howes	А	Springfield, Mass.
Ella Katharyn Hudson	А	Uxbridge, Mass.
Bessie Turner Keene	А	Providence
Louise Ceeilia Kennedy	А	Moosup, Ct.
Lena Rose Lopiansky	А	Hartford, Ct.
Kathryn Ormiston Lundy	А	Port Jervis, N.Y.
Alice Louise McCaffrey	А	Woonsocket
Anna Hildegarde Mee	А	Woonsocket
Sarah Ida Morse	А	Edgewood
Ruth Evelyn Myrick	р	Providence
Elsie Northup	А	Peace Dale
Francis Patricia O'Connor	р	Providence
Edna Louisa Palne	P	Chepachet
Ellen Rose Pearce	A	Pawtuxet
Bertha Mae Prentiss	А	Springfield, Mass.
Florence Relief Rhodes	А	Oxford, Mass.

THE WOMEN'S COLLEGE

NAME		RESIDENCE
Marjorie Aline Robertson	Р	Edgewood
Elizabeth de Welden Root	A	Providence
Edith Charlotte Swanson	P	Crompton
Helen Tingley	А	Bristol
Lena Frances Uhlig	A	Attleboro, Mass.
Harriet Cutler Waterman	Р	Providence
Winnifred Caroline Wetherbee	А	Fall River, Mass.
Ruth Young	A	Providence

SOPHOMORES : CLASS OF 1918

А	Newport
A	Providence
А	Barrington
Р	Providence
Р	New Bedford, Mass.
А	Cranston
А	Providence
A	Providence
Р	Pawtuxet
A	East Greenwich
Р	Pawtucket
А	Taunton, Mass.
Å	Providence
P	Providence
A	Providence
Å	Pawtucket
Р	Meshanticut
A	Leonia, N. J.
A	Providence
А	Auburn
А	New Bedford, Mass.
Р	Edgewood
Р	Plainfield, N. J.
A	Woonsocket
А	East Providence
Р	Hopkinton
P	Campello, Mass.
A	Central Village, Ct.
А	Providence
А	Attleboro, Mass.
Р	Providence
Å	Pawtucket
	A A A P P A A A P A A A P A A A P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A P P A A P P A A P P A A P P A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A A P P A A P P A A P P A A P P P A A P P P A A P P P A P P A P P P A A P P P A A P P P P A P P A P P P A A P P P P A A P P P P A P A P P P A P P A P P P A A P P P P A A P P P P A A P P P P A A P P P P A A P P A A P P P A A P P A A P P A A P P P A A P P A A A P P A A A P P A A A P P A A A A A P P A A A A A A P P P A A A A A A A P P A A A A A A A P P A A A A A A A P P P A A A A P P P A A A A A A P P P A A A P P P A A A P P P P A A A P P P P A A A P P P P A A A P P P A A A A P P P P A A P P A A P P A A A P P P A A P P A A P P A A A P P A A P P A A A A A A A P P A

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NAME		RESIDENCE
Helen Axtell Mowry	А	Woonsocket
Elizabeth Rogers O'Donnell	А	Woonsocket
Jane Frances Peckham	А	Bradford
Marion Robins Pfeiffer	Р	Providence
Rose Presel	P	Providence
Beatrice Rayment	А	Taunton
Hannah Grace Roach	А	Springfield, Mass.
Martha Josephine Mary Ryan	А	Providence
Marion Sherman	А	Bristol
Annie Desmond Sisson	А	Bristol
Mildred Josephine Smith	А,	Providence
Evelyn Southwell	А	Providence
May Sperry	P	Oak Lawn
Mildred Mary Stanton	А	Pawtucket
Isabel Louise Taylor	Р	Meshanticut
Annie Terry	P	Springfield, Mass.
Mary Clarke Tucker	Р	Narragansett Pier
Ruth Wakefield	А	Providence
Madeleine Howe Webster	А	East Providence
Ruth Estella Wells	Р	Centerville
Olive Collins White	А	Providence
Janet Agnes Williamson	А	Newport
Caroline Louisa Wright	P	Providence

FRESHMEN: CLASS OF 1919

Helen Tucker Albro	А	Peace Dale
Alice May Bentley	А	East Greenwich
Olive Harriette Blaisdell	р	Providence
Hazel Elsie Bliss	А	Providence
Esther Elizabeth Brintzenhoff	А	Reading, Pa.
Caroline Elizabeth Capwell	А	Providence
Mary Elizabeth Carroll	Р	New Bedford, Mass.
Evelyn Chase	A	Providence
Madrid Collette	Р	Fisherville, Mass.
Ruth Crawford Coombs	А	East Providence
Gladys Louise Crapo	Р	Taunton, Mass.
Marion Davis	Р	Providence
Novella Eastman	А	Woonsocket
Laurice Flagg	Р	Littleton, Mass.
Martha de Meritte Gage	Р	Edgewood
Edith Lee Goff	A	Pawtucket
Ruth Storer Green	А	South Willington, Ct.

THE WOMEN'S COLLEGE

3.2	4	3.4	E

NAME		RESIDENCE
Elizabeth Ellery Hammett	А	Newport
Hazel Dadmun Hartwell	A	Providence
Constance Margaret Hayden	Р	North Providence
Gertrude Alma Hedberg	А	Waterbury, Ct.
Bessie Higgins	Р	Campello, Mass.
Elaine Virginia Hildrup	Р	Providence
Hope Louise Humes	Р	East Providence
Ruth Huntington	A	Newport
Marion West Johnson	А	Arctic
Asya Katz	Р	Boston, Mass.
Madeline Cecelia Keefe	А	Fall River, Mass.
Mary Lavell	A	Providence
Marjorie Vaughan Leonard	P	Holden, Mass.
Ruth Chace Lester	P	Providence
Helen Frances McAndrews	Р	Providence
Edna Ruth MacDonald	А	East Providence
Mary Gladys Mahoney	А	Providence
Vashti Celestine Maxwell	А	Baltimore, Md.
Elsa Marguerite Metzger	Р	Providence
Sophie Mogilevkin	P	Pawtucket
Mildred Morse	P	Woonsocket
Miriam Fern Nuzum	А	Willimantic, Ct.
Theresa Elizabeth O'Brien	A	Providence
Mary Frances O'Rourke	A	Providence
Winifred Olendorf	А	Raynham Centre, Mass.
Camelia Papalia	P	Westerly
Ruth Dorothea Peterson	А	Providence
Miriam Prentice	Р	Providence
Helen Putnam	А	Manchester, N. H.
Elizabeth Jemima Ross	Р	South Seekonk, Mass.
Katherine Leonard Sheppard	A	Haverhill, Mass.
Edith Frances Smith	А	Warren
May Isabelle Stang	А	Providence
Ruth Sword	А	Springfield, Mass.
Alice Tattrie	А	Bristol
Florence Rose Thomae	А	Attleboro, Mass.
Ingeborg Mathilda Toll	Р	Manville
Helen Jenks Vaughn	Р	Providence
Una Vestella Whipple	А	West Wrentham, Mass.
Edna Elizabeth Whitford	P	Centerville, Mass.
Magel Craig Wilder	А	Thornton
Frances Woodworth Wright	А	Providence

SPECIAL STUDENTS

NAME Doris Dwinel Aldrich Grace Elizabeth Bursley Ruth Campbell Dorothy Marietta Crandall Dorothy Antoinette Dowell Mary F. Johnson Norma Catherine Martines Marguerite Page Frances Semle RESIDENCE Providence West Barnstable, Mass. Providence Wakefield Providence Pawtucket Providence Providence Providence

APPENDIX

THE BROWN UNIVERSITY TEACHERS' BUREAU

THE Brown University Teachers' Bureau was established for the purpose of facilitating communication between the heads of educational institutions and graduates of Brown who desire positions as teachers. To this end it solicits correspondence with those who are seeking teachers, and invites inspection of the list of teachers now registered. It advises graduates of Brown who wish its assistance to register at once, and, if possible, to meet the Secretary in a personal interview. It offers to undergraduates information as to subjects in which there is a demand for teachers, as to positions commonly open to recent graduates, and as to the preparation usually required. No charge for the services of the Bureau is made either to students or to schools. It is the further purpose of the Bureau to foster coöperation between the University and all graduates engaged in the work of education. As far as possible an accurate register of the addresses and the positions of all such graduates is kept. The office of the Secretary, Professor WALTER BALLOU JACOBS, is in the John Hay Library.

THE BROWN UNIVERSITY BUREAU OF APPOINTMENTS

This Bureau has been established to assist former students of the University in securing other kinds of employment than those cared for by the Teachers' Bureau. It desires to obtain from friends of the University information in regard to positions available for college men. This information it will supply to those who may register with the Bureau. Blanks for this purpose may be obtained from the Secretary and no charge will be made for the services of the Bureau. The office of the Secretary, Professor ANSEL BROOKS, is in the Engineering Building, Room 15.

THE BROWN UNIVERSITY TEACHERS' ASSOCIATION

The Brown University Teachers' Association was organized in 1903. The purpose of the Association is "first, to further the mutual interests of Brown University and the schools preparing students therefor; and second, to pro-

mote the welfare of the Alumni of the University who are teachers." The twelfth annual meeting of the Association was held at Brown University on Friday and Saturday, April 16 and 17, 1915.

OFFICERS FOR 1915-16

- President: JOHN LINCOLN ALGER, A.M., Principal, Rhode Island State Normal School.
- First Vice-President: WALTER GOODNOW EVERETT, PH.D., Professor of Philosophy, Brown University.
- Second Vice-President: ISAAC OSCAR WINSLOW, A.M., Superintendent of Schools, Providence.
- Secretary: WALTER BALLOU JACOBS, A.M., Professor of Education, Brown University.
- Treasurer : CLARENCE HARTWELL MANCHESTER, A.M., Teacher of English, Technical High School, Providence.
- Executive Committee: THE OFFICERS OF THE ASSOCIATION AND THE PRESIDENT OF THE UNIVERSITY, ex officio; JESSE MADISON GATHANY, A.M., Teacher of History, Hope Street High School, Providence; STEPHEN SHELDON COLVIN, Professor of Educational Psychology, Brown University; CHESMAN C. SPRATT, Principal of High School, Woonsocket.

THE RHODE ISLAND ALPHA OF THE PHI BETA KAPPA SOCIETY

OFFICERS AND COMMITTEES FOR 1915-16

President: Professor OTIS EVERETT RANDALL, PH.D.

Vice-President: CHARLES CARNEY MUMFORD, A.M.

Secretary. Professor JAMES QUAYLE DEALEY, PH.D.

Treasurer: WILLIAM WASHBURN MOSS, A.M.

Historian: Professor WILFRED HAROLD MUNRO, L.H.D.

- Committee on Alumni and Honorary Membership: WILLIAM HOLDEN EDDY, PH.D., JOHN LINCOLN ALGER, A.M., Professor WILLIAM THOMPSON HAST-INGS, A.M., the Secretary, ex officio.
- Committee on Arrangements: THE PRESIDENT, ex officio, STEPHEN OSTROM ED-WARDS, LL.D., Professor HENRY BRAYTON GARDNER, PH.D.
- Committee on New Chapters: Professor James Quayle Dealey, Ph.D., Isaac Oscar Winslow, A.M., James Aldrich Pirce, A.M.
- Committee on Nomination of Officers: CLIFFORD WHIPPLE, A.M., HERBERT AMBROSE RICE, A.M., FRANK LESLIE DAY, A.M.

Auditor: ZECHARIAH CHAFEE, JR., A.B.

APPENDIX

MEN ELECTED IN 1915

Alumni: DALLAS LORE SHARP, '95, LEONARD WOLSEY CRONKHITE, '05.

Seniors: Charles Percy Babington, Samuel Benjamin, Sharon Osborn Brown, William Russell Burwell, Cecil Merne Putnam Cross, Shirley Everett Culver, Franklin Blaine Frost, Prescott William Hill, George Henry Anthony La Roe, Harold Leslie Myers, William Arthur Needham, Herbert Newell Nicholas, James Francis O'Donoghue, Roy Cleveland Phillips, George Willis Waterman, William Randall Waterman. Juniors: Abraham Jacob Burt, Claus Emanuel Ekstrom, Thomas Bartholomae Keville, Henry Weeden Underwood, Jr., George Morrill White, Amasa Firth Williston.

WOMEN'S ORGANIZATION

President: Mrs. FRANCIS G. ALLINSON, PH.D. Vice-President: Miss CLARA E. COMSTOCK, A.M. Secretary-Treasurer: Miss Lillian G. MacQuillin.

WOMEN ELECTED IN 1915

Seniors: Katherine Canada, Almira Bashford Coffin, Carrie Thompson Foulkes, Elinor Edna Randall.

Juniors: Edith Marguerite Sprague, Marian Elizabeth Stark, Marian Marsh Torrey.

THE BROWN CHAPTER OF THE SOCIETY OF THE SIGMA XI

Students who have taken at least fifty-two semester hours in pure or applied science are, in their Senior year, eligible to membership in the honorary scientific society, Sigma Xi, provided that they have "given promise of marked ability in those lines of work which it is the object of the Society to promote."

OFFICERS AND COMMITTEES FOR 1915-16

President: Professor HERBERT EUGENE WALTER, PH.D.

Recording Secretary: Professor Roland George Dwight Richardson, Ph.D. Corresponding Secretary: Professor Harlan Harvey York, Ph.D.

Treasurer: CLINTON HARVEY CURRIER, A.M.

Auditor: Professor JAMES ALEXANDER HALL, Sc.B.

Councillor: Professor Albert DEFOREST PALMER, PH.D.

Committee on Nominations: Professor Roland George Dwight Richardson, Ph.D., Professor John Edward Hill, Sc.D., Professor Frederic Poole Gorham, A.M., Professor John Emery Bucher, Ph.D., Professor Ansel BROOKS, M.E.

MEMBERS ELECTED IN 1915

Graduate Student: WALTER HENRY SNELL.

Seniors: ISMAR BARUCH, WILBUR TOBIAS BRECKENRIDGE, PRESCOTT WILLIAM HILL, FREDERIC JOHNSON HUNT, JAMES FRANCIS O'DONOGHUE, LOUIS MO-RENCI SWEENY, GEORGE WILLIS WATERMAN, BYRON LILLIBRIDGE WEST, WIL-LIAM RUSSELL BURWELL.

THE ASSOCIATED ALUMNI

OFFICERS AND COMMITTEES FOR 1915-16

President : CHARLES CARNEY MUMFORD, A.M., '81, Providence.

Vice-Presidents: CLARENCE HART LINGHAM, '97, Boston; WILLIAM CHACE GREENE, A.M., '75, Providence.

Secretary: Albert KNIGHT POTTER, A.M., '86, Providence.

Treasurer: ROBERT WENDELL TAFT, PH.B., '91, Providence.

Executive Committee : BYRON SPRAGUE WATSON, A.B., '97, WALTER LEE MUNRO,

- '79, ARCHIBALD CLAFLIN MATTESON, A.B., '93, HORACE PAUL DORMAN, '96, GEORGE ANTHONY GASKILL, '98, Worcester.
- Advisory Board: GEORGE FREMONT BEAN, LL.B., '81, WALTER CORNELIUS WYCKOFF, A.B., '95, EDWARD OTIS STANLEY, '76, FRED HOMER WILLIAMS, '77, EDWARD HENRY WEEKES, '93, JOHN PALMER BARSTOW, '07, ALBERT KNIGHT POTTER, A.M., '86, ex officio, and representatives chosen by the Alumni Associations.

ALUMNI ASSOCIATIONS

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- WOONSOCKET. President, Howard K. Jackson, '09. Secretary, Frederic Earle Whitaker, '88, 9 Longley Building, Woonsocket, R. I.
- FALL RIVER. President, Dr. John H. Lindsey, '92. Secretary, J. Terence C. McGuire, '12, Fall River, Mass.
- WORCESTER COUNTY SONS OF BROWN. President, Appleton P. Williams, '89. Secretary and Treasurer, George E. Marble, n. '00, 72 Cambridge Street, Worcester, Mass.
- CONNECTICUT VALLEY. President, Rev. Edwin B. Dolan, '93. Secretary and Treasurer, Arthur S. Gaylord, '02, 362 Chestnut Street, Holyoke, Mass.

APPENDIX

- NEW BEDFORD. President, Charles D. Dexter, '85. Secretary and Treasurer, Edward W. Holmes, '03, 661 County Street, New Bedford, Mass.
- WASHINGTON AND NEW LONDON COUNTIES. President, Henry R. Palmer, '90.
- BRISTOL. President, Hon. Augustus O. Bourn, '55. Secretary, Howard R. Newman, '08, 31 Burton Street, Bristol, R. I.
- NEW HAMPSHIRE AND VERMONT. President, George I. Hopkins, '75. Secretary, Dr. Henry W. N. Bennett, '97, Manchester, N. H.
- WESTERN MAINE. President, Hon. George C. Wing, '00. Secretary, George S. Burgess, '12, Fidelity Building, Portland, Maine.
- NEW YORK CITY. President, William R. Dorman, '92. Secretary, Frederick R. Gleason, '11, 44 West 44th Street, New York City.
- ALBANY. President, William G. Ely, '90. Secretary and Treasurer, Frank C. Hulse, '05, 423 Brandywine Avenue, Schenectady, N. Y.
- CENTRAL NEW YORK. President, Frederick R. Hazard, '81. Secretary and Treasurer, Warren G. Bullard, '92, 613 South Crouse Avenue, Syracuse, N. Y.
- Rochesten. President, Clarence A. Barbour, '88. Secretary and Treasurer, Rev. Henry C. Peepels, '81, 188 Harvard Street, Rochester, N. Y.
- PHILADELPHIA. President, Pierson T. Fort, n. '95. Secretary, Dr. William H. Bennett, '79. Assistant Secretary, Ray F. Knowlton, '02, 1324 Locust Street, Philadelphia, Pa.
- PITTSBURGH, President, William E. Lincoln, '68.
- MARYLAND AND DISTRICT OF COLUMBIA. President, Arthur D. Call, '96. Secretary and Treasurer, W. Clayton Carpenter, '06, 902 Hibbs Building, Washington, D. C.
- CLEVELAND. President, Newton S. Calhoun, '79. Secretary and Treasurer, Joseph B. Keenan, '10, The University Club, Cleveland, Ohio.
- CINCINNATI. President, Eliab W. Coy, '58. Secretary, Samuel W. Smith, '80, Madison Road, Cincinnati, Ohio.
- CHICAGO. President, Noble B. Judah, Jr., '04. Secretary and Treasurer, John T. Walker, '13, 415 North Green Street, Chicago, Ill.
- MICHIGAN. President, Wilfred C. Leland, n. '92. Secretary, John O. Chesley, '11, 1512 Ford Building, Detroit, Michigan.
- INDIANA. President, John M. Judah, '67. Secretary, Herbert H. Rice, '92, The Waverly Company, Indianapolis, Ind.
- MINNESOTA. President, Lucius P. Ordway, '83. Secretary, Harry W. Jones, '82, Lumber Exchange, Minneapolis, Minn.

- PUGET SOUND. President, Claude E. Stevens, '01. Secretary, Moncrieffe Cameron, '00, 304 Central Building, Seattle, Wash.
- ST. LOUIS. President, David S. H. Smith, '62. Secretary, Augustus L. Abbott, '80, 417 Pine Street, St. Louis, Mo.

THE ALUMNAE ASSOCIATION OF BROWN UNIVERSITY

OFFICERS FOR 1915-16

President: Miss SARAH GRIDLEY Ross, '05, A.B., Saratoga Springs, N. Y. First Vice-President: Miss MARION SHIRLEY COLE, '07, A.M., Providence.

- Second Vice-President (representing New York Branch): Mrs. HARRY W. LAM-BERT, '07, A.B.
- Third Vice-President (representing Boston Branch): Mrs. NATHAN R. WOOD, '95.

Recording Secretary: Miss MARY CARR CROWELL, '09, PH.B., Warren, R. I.

- Corresponding Secretary: Miss LOUISE M. J. BROUGH, '97, A.M., 13 Pomona Ave., Providence.
- Treasurer: Miss MARTHA WILBUR WATT, '00, Ph.B., 2144 Broad St., Providence.

ALUMNAE CLUBS

- NEW YORK. President, Miss Miriam F. Slocum, ex. '04. Vice-President, Miss Agnes Elizabeth Clark, '99. Treasurer, Mrs. George H. Sherwood, '99. Secretary, Miss Helen Humphrey, 7 Fifth Ave., New York City.
- BOSTON. President, Mrs. Charles I. Gates, '99. Vice-President, Mrs. J. W. M. Bunker, '09. Recording Secretary and Treasurer, Mrs. H. W. Shedd, '11. Corresponding Secretary, Mrs. Leonard W. Williams, '95, 28 Gorham St., Cambridge, Mass.
- CONNECTICUT VALLEY. President, Mrs. HARRY B. MARSH, '97. Vice-President, Miss IDA F. HERRMANN, '06. Secretary-Treasurer, Miss Helen M. HASTINGS, '13, Feeding Hills, Mass.

TABLE SHOWING RENT AND LOCATION OF DORMITORY ROOMS

HOPE COLLEGE

No.	Division	Floor	Windows face	Bedrooms	Rent
1	South	1	E. & S.		\$136
2	66	66	W. & S.	44	142
3	66	66	W.	pr	136
4	66	66	E.	ar	133
5	66	2	E. & S.	3	136
5 6 7	66	66	E. & S. W. & S.		142
7	66	66	W. E.	40	136
8	66	66) E.	pt	133
9	66	3	E. & S. W. & S.	ar	127
10	66	66	W. & S.	6	137
11	66	66	W.		127
12 13	66	66	E.	36	121
13	66	4	E. & S. W. & S.	p	121
14	66	66	W. & S.	an	127
15	66	66	W W	12	121
16	66	66	E. E. W.	03	118
17	Middle	1	E.	10	133
18	66	66	<u>W</u> .	g	136
19	66	6.6	W.	an	136
20	66	66	E. E.	6	133
21	66	2	E.	6,	133
22	66	66	W. W.	g	136
23	66	66	W.	an	136
24	66	66	E.	40	133
25	66	3	E.	ŝ	121
26	66	66	W.	Ţ	127
27	66	66	W.	s.	127
28			E.	- E	121
29		4 66	E.	.00	118
30		66	W. W.	S N	121
.31	66	66	E.	0g t	121
32 33			E. F	bu	118
33 34	North "	1	E. W.	0, 0	133 136
35	66	66	W.	L B	130
36	66	66	Ĕ.	00	148
37	66	2	E.	dr	148
38	66	20 6.6	W.	be	135
39	66	66	W. & N.	s c	148
40	66	66	E & N	as	148
41	66	3	E. & N. E.	er	121
42	66		W.	th	127
43	66	66	W. & N.	e.o	136
44	66	66	E. & N.	edp	136
45	66 .	4	E. & N. E.	us	118
46	66	66	W.	00	121
47	66	66	W. & N.	er b	127
48	66	66	E. & N.	There are no separate bedrooms, but Nos. 1 and 2, 5 and 6, 9 and 10, 35 and 36, 39 and 40, 43 and 44, can be used either as suites or as single rooms.	127

UNIVERSITY HALL

No.	Division	Floor	Windows face	Bedrooms	Rent
4	South	1	W.	None	\$140
10	66	2	S. & W.	1	235
12	66	66	W.	None	125
13	66	6.6	W.	6.6	125
16	66	66	E.	66	110
17	66	6.6	E.	66	116
18	66	6.6	E. & S.	66	143
19	66	3	S. & W.	1	225
21	66	66	W.	None	122
22	66	66	W.	66	122
25	**	6.6	E.	66	110
26	66	66	E.	66	110
27	66	6.6	E. & S.	66	131
28	44	4	S. & W.	1	205
30	66	6.6	W.	None	110
31	66	6.6	W.	6.6	110
32	66	6.6	E.	66	107
33	66	6.6	E.	66	107
34	66	66	E. & S.	66	131
40	North	2	<u>W</u> .	66	125
41	66	66	W.		125
44		66	E. & N.	None	131
45		66	E.	6.6 6.6	116
46 47			E.	66	116
47		3	W.	66	116
48 50	66		W. W. & N.		116
51	66	66	E. & N.	1	225
52	66	66	E. & N. E.	None	125
53	66	66	E.	66	110
54	66	4	W.		110 110
55	66		w.	66	110
57	66		W. & N.	1	195
58	66	66	E. & N.	None	125
59	66	66	E. (66	107
60	66	6.6	Ē.	66	107
•				1	101
		SLAT	TER HALL		
1 1	South	1	E. S. & W. 1	2	000.00
2	66	66	E. & W.	2 1	260.00 200.00
3	66	2	E. S. & W.	2	260.00
4	6.6	66	E. & W.	2	245.00
5	66	3	E. S. & W.	2	245.00
6	66		E. & W.	2	230.00 245.00
7	66	4	E. S. & W.	ĩ	175.00
8, 9	6.6		W.	i	194.00
10	North	1	E. & W.	2	269.50
11	4.9		E. W. & N.	2	269.50
				- 1	

No.	Division	Floor	Windows face	Bedrooms	Rent
12	North	2	E. & W.	2	\$269.50
14	46	6.6	W. N. E.	2	286.00
15	66	3	W. & E.	2	264.00
17	66	6.6	W. N. E.	2	275.00
18, 19	66	4	E. & W.	1	206.80
20	66	66	W. N. E.	1	176.00

SLATER HALL (continued)

CASWELL HALL

1	North	1	E. N. & W.	1	375
2	66	66	E. & W.	1	350
3	66	2	E. N. & W.	2	375
4	66	66	E. & W.		350
5	66	3	E. N. & W.	2 2	375
4 5 6	66	66	E. & W.	2	350
7	66	4	E. & N.	None	195
8	66	66	W. & N.	66	195
9	66	66	W.	66	165
10	66	66	E.	66	165
11	Middle	1	66	66	175
12	66	46	W.	66	175
13	66	66	66	66	175
14	66	66	E.	66	175
15	66	2	66	66	185
16	66	2	W.	66	185
17	66	66	66	66	185
18	66	66	E.	66	185
19	66	3		66	185
20	66	66	W.	66	185
21	66	56	66	66	185
22	66	66	. E.	66	185
23	66	4		66	165
24	66	66	W.	66	165
25	66	66	66	66	165
26	66	66	E.	66	165
27	South	1	E. & W.	1	350
28	66	1	E. S. & W.	1	375
29	66	2	E. & W.	2	350
30	66	66	E. S. & W.	2 2 2 2	375
31	66	3	E. & W.	2	350
32	66	66	E. S. & W.		375
33	66	4	E.	None	165
34	66	66	W.	66	165
35	66	66	W. & S.	6.6	195
36	66	66	E. & S.	66	195

No.	Floor	Windows face	Rent
313	3	E.	\$140
314	66	66	140
315	66	E. & S.	140
316	66	W. & S.	135
317	66	W.	135
318	66	66	135
319	66	66	135
320	66	66	135
321	66	W. & N.	135
322	66	E. & N.	140
323	66	E.	, 140
324	66	66	140
425	4	66	140
426	66	66	140
4.27	66	E. & S.	140
428	6.6	W. & S.	135
4.29	66	W.	135
430	66	66	135
431	66	66	135
432	6.6	66	135
433	6.6	W. & N.	135
434	66	E. & N.	140
435	66	E.	140
436	66	66	140

MAXCY HALL

DIRECTORY TO THE DORMITORIES

Hope College, South Division, Rooms 1 to 16. Hope College, Middle Division, Rooms 17 to 32. Hope College, North Division, Rooms 33 to 48. Maxcy Hall, Rooms 313 to 436. Slater Hall, South Division, Rooms 1 to 9. Slater Hall, North Division, Rooms 1 to 20. University Hall, South Division, Rooms 1 to 34. University Hall, North Division, Rooms 35 to 61. Caswell Hall, North Division, Rooms 1 to 10. Caswell Hall, Middle Division, Rooms 11 to 26. Caswell Hall, South Division, Rooms 27 to 36.

SUMMARY OF REGISTRATION

Corrected to December 1, 1915

UNDERGRADUATE MEN

Seniors	144
Juniors	137
Sophomores	170
Freshmen	256
Special Students	58
Total	765

THE WOMEN'S COLLEGE

Seniors	48
Juniors	38
Sophomores	55
Freshmen	60
Special Students	8
Total	209

GENERAL SUMMARY

Graduates	145
Undergraduate Men	765
Women's College	209
	1119
Deduct for names counted twice	5
Total .	1114
Registered in Extension Courses, first se-	
mester, 1914–15, and not included above	310



PUBLICATIONS

The following list includes the official publications of the University with other pamphlets and periodical publications of interest to alumni and friends of the University.

Unless otherwise stated, copies of any of these publications may be obtained by applying to the Registrar, Brown University.

BULLETIN OF BROWN UNIVERSITY

This series includes the Annual Catalogue of Brown University; Annual Report of the President to the Corporation; Program of Commencement Week; Announcement of Courses for the following year; Announcement of Courses for the Women's College.

THE ANNUAL REPORT OF THE TREASURER

THE HISTORICAL CATALOGUE OF BROWN UNIVERSITY, 1764–1914 This Catalogue gives the names of all persons who have been connected with Brown University, with brief biographical data, and the present addresses of living graduates.

789 pages, cloth, \$1.25, delivered. Copies of the Historical Catalogue, 1764–1904, may still be obtained. Price \$1.00, delivered. Address the Keeper of Graduate Records, Brown University, and make checks payable to Brown University.

THE HISTORY OF BROWN UNIVERSITY, 1764-1914

By Walter Cochrane Bronson, Litt.D., Professor of English Literature. Published in connection with the celebration of the one hundred and fiftieth anniversary of the founding of the University.

548 pages, cloth, \$2.00, delivered. Printed by D. B. Updike, at The Merrymount Press, Boston, Mass. Address the Committee on the Academic Celebration and make checks payable to Brown University.

THE SESQUI-CENTENNIAL OF BROWN UNIVERSITY, 1764-1914. A COMMEMORATION.

Edited by William Vail Kellen, Ph.D., LL.D. A graphic account of the Celebration with all the addresses in full.

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Issued on Saturday during term time by the Publicity Committee of the University as a supplement to the Brown Daily Herald.

STUDENT LIFE AT BROWN Published by Alumni. A pamphlet of 28 pages, with illustrations.

THE BROWN ALUMNI MONTHLY

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